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ABSTRACT

Replicating the Appalachia Educational Laboratory's (AEL) experience-based career education (EBCE) model, this project had as its objectives increasing students' basic, career awareness, and life skills; developing in students awareness of their abilities, interests, and aptitudes; developing positive student, parent, and community attitudes; developing an outreach plan, training center, and expertise to provide technical assistance; and evaluating EBCE effectiveness. Students used AEL's Student Program and Career Guides to assess academic and career needs before developing individualized education programs with their learning coordinator. The first-year evaluation addressed questions concerning academic achievement and career concept learning; student characteristics; student followup; student, parent, and community attitudes; impact on high schools; and dissemination results. A two-and-one-half-year study concluded that (1) EBCE students are mostly juniors and seniors, are equally divided between males and females, and vary in level of academic achievement; (2) EBCE and more traditional curriculum equally develop/maintain basic skills; (3) EBCE students are rated as more mature by themselves, parents, and learning coordinators and as better young workers by employers; and (4) benefits to students were realistic job and work experience, learning self-discipline, a chance to mature, learning to consider alternatives in planning, and good preparation and motivation for college. (YLB)

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FINAL REPORT

Project No. 498AH60060
Grant No. G037600050

Experience Based Career Education

Exemplary Project in Vocational Education
Conducted Under
Part D of Public Law 90-576

The project reported herein was performed pursuant to a grant with the Bureau of Adult, Vocational, and Technical Education, Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgement in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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UE023822

October 12, 1979

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Section 6d and Appendices E, L, and K were prepared by F. B. Gannon of New Educational Directions, Inc. (NED). NED served as the project's third-party evaluator for its entire funded life.

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5. Summary of the Project

MSAD #51's Experience Based Career Education (EBCE) Project commenced preparatory activities upon notification of funding on September 17, 1976. It began serving students on February 1, 1977 with the last group of students completing the program in June, 1979. The project concluded all activities on September 16, 1979.

The project's goals and objectives were:

I. Student Objectives

A. EBCE students will increase their abilities in the basic skills areas at least as much as comparison groups of students enrolled in traditional high schools.

B. EBCE students will increase their knowledge of the world of work and career awareness skills; will increase knowledge of own work and career awareness skills; will increase knowledge of own abilities, interests and aptitudes in relation to careers, and will have positive attitudes towards career planning.

C. EBCE students will improve in the life skills needed for their transition to adulthood (e.g., learning to assume more responsibility for themselves, communicating with others in a mature way) and will increase their motivation to learn.

D. EBCE students will have a positive attitude toward EBCE and a positive assessment of the effectiveness of EBCE.

E. Parents of EBCE students and participating employer/community resource persons will have a positive attitude toward EBCE and a positive assessment of the effectiveness of EBCE.

II. Outreach Objectives

A. Develop a plan for outreach to include slide tape presentations, printed announcements, staff presentations at professional meetings, etc.

B. Develop as a training center.

C. Develop expertise to provide technical assistance.

D. Develop an evaluation program that will provide technical data on the effectiveness of EBCE.

MSAD #51's EBCE program was a high fidelity replication of the Appalachia Educational Laboratory's (AEL) EBCE model. The procedures used for site development, academic instruction, and the placement of students at sites as well as the EBCE guidance component were largely those developed by AEL. The outreach component of the project utilized newsletters and project-developed inservice sessions for potential adopters. During the project's life the Northeast Consortium was developed and was used as a dissemination vehicle by the project director.

The project was able to compile an impressive list of accomplishments during its funded life. Included in that list are:

1. During five semesters of operation, 103 different students successfully completed at least one semester of EBCE.

2. Greely High School had an AEL EBCE operational demonstration program from which other schools learned.

3. Sixteen educators were trained in the AEL model as learning coordinators and site analysts.

4. Twenty educators representing twelve different school systems were trained in the Maine Community Based Education Model. Also MSAD #51 assisted in training the staff of Maranacook Community School in the Far West Laboratory (FWL) model of EBCE.

5. Ten different school systems in Maine are currently operating a community based education program for high school students.

6. Coordinated training for a middle-school community education program. Seven educators were trained from three different school systems.

7. Dissemination of MSAD #51's accomplishments through two national conferences (American Personnel and Guidance Conference and National EBCE Networks Conference).

8. MSAD #51 has a program operating on local funds utilizing EBCE as one option to deal with dropouts and potential dropouts.

9. Developed and disseminated two EBCE brochures describing MSAD #51's program.

10. The Northeast Education Consortium (an independent nonprofit educational corporation) was identified by the Maine Commissioner of Education as the Maine State Department of Educational and Cultural Services' agency for dissemination of EBCE. (Appendix C)

11. A group guidance program was developed by staff. (Appendix D)

12. Developed a curriculum for Typing I and II and Shorthand.

13. Twenty-six specific functions to be accomplished during the project's funding period were identified in the original proposal. All twenty-six of these functions were accomplished by the project staff prior to the conclusion of the project.

The project and its third-party evaluator, New Educational Directions, Inc. (NED), began working together immediately upon notification of funding. The evaluation activities provide documentation that MSAD #51's EBCE Project:

(1) Was a high fidelity replication of the AEL EBCE model as required by its priority area 2 funding.

(2) Provided students with a non-traditional education which enabled them to learn academics at a level equal to a matched comparison group in a traditional program.

(3) Developed in students self-discipline, decision-making skills, and levels of maturity which exceeded those anticipated for their age group.

(4) Was overwhelmingly endorsed by those involved in it, including staff, students, Resource Persons, and the parents of EBCE students.

The MSAD #51 EBCE Project did provide a viable alternative program for students. Its success as a demonstration site is attested to by the fact that ten Maine school districts have adopted similar models. As practiced, its costs were in addition to the cost of MSAD #51's regular secondary programs. The project was not successful in gaining an adequate level of support from key MSAD #51 staff to assure its continuance. As a result of the project's experiences, it was recommended that the:

1. MSAD #51 School Board actively consider ways to utilize the EBCE concepts for all of its students not just the disadvantaged.

2. Maine State Department of Educational and Cultural Services disseminate the results of this project to all Maine secondary schools.

3. Northeast Educational Consortium continue to support and assist school systems involved in community based education.

4. United States Office of Education continue to fund local school systems that have the potential to develop EBCE programs until such time as each state has the capacity to provide training in the four EBCE models.

6f. Final Remarks (out of sequence)

Before the final report begins, I would like to preface this report with these remarks. This section is presented first because of its importance. The remainder of the report is in sequence.

Ever since I became aware of the National Institute of Education's effort to develop EBCE, I believed it was based on sound educational methods. I authored the proposal in 1976 that earned the funding for MSAD #51 to develop this program. I served as director for two and one half years of the project and as consultant the last half of the final year. It is for these reasons that I attempt to draw conclusions from this project, to identify implications, and to offer recommendations for the future.

It must be concluded that MSAD #51 developed one of the most high fidelity AEL EBCE programs to date. MSAD #51 applied principles of AEL to subjects not dealt with in the AEL model. For the past three years, the students of MSAD #51 have had a complete alternative to the traditional high school without giving up any quality of learning.

MSAD #51 has demonstrated that the model can work in a rural-suburban community and is transportable to other communities.

It must be concluded that Experience Based Career Education is a viable alternative for students at all academic levels in any setting. Students who participate in AEL EBCE programs become excited about learning. They respond to the challenge of education and learn beyond academics to the value of life. Students become more self-confident as they see the profits of planning through the EBCE experience.

Caution is offered to the reader, EBCE is a radical change from the traditional concept of education. Most school systems operate on a more traditional philosophy. Individualized education may be the talk of educators today, but it is not the general practice. If AEL EBCE can accomplish such grandious results, why isn't it in full operation today? The remaining sections of this report attempt to deal with this question. In order to bring about change, those people involved must believe the change to be better than what has existed. In order for people to believe the change to be better, they *must* be a part of the developmental process.

The results of this project imply that there is a better way for some students to learn. It also implies that the ratio of cost per pupil today has more influence on the types of programs offered in public schools than the cost to society of people functioning at a level less than could otherwise be true. It is implied that more students will gain more from an EBCE approach than from the traditional programs.

The recommendations that follow are those of this author as well as the staff and students of MSAD #51's AEL EBCE program.

It is recommended that the:

1. MSAD #51 School Board actively consider ways to utilize the EBCE concepts for all of its students not just the disadvantaged.

2. Maine State Department of Educational and Cultural Services disseminate the results of this project to all Maine secondary schools.

3. Northeast Educational Consortium continue to support and assist school systems involved in community based education.

4. United States Office of Education continue to fund local school systems that have the potential to develop EBCE programs until such time as each state has the capacity to provide training in the four EBCE models.

6a. Problem Area Toward Which the Project was Directed

MSAD #51 has addressed Program Priority Area #1 as defined in the *Federal Register*, Thursday, November 13, 1975: Demonstration of the National Institute of Education's (NIE), Experience-Based Career Education (EBCE) program developed by Appalachia Educational Laboratory (AEL). As described in the *Federal Register*, extensive research was conducted for the NIE by four separate educational laboratories: AEL, Research for Better Schools, Northwest Regional Laboratory, and Far West Laboratory. EBCE is an educational program that includes the following:

1. Awarding of credit in academic subjects including English, science, mathematics, and social studies for completion of EBCE projects in the community. This credit will contribute to the requirements of a standard diploma.

2. Provide that the basic educational program will involve work throughout the community with access to adults in their normal working environment.

3. Insure that each student has an individualized learning plan with sufficient student input.

4. Insure that within the overall learning plan, the experience is designed to integrate career decision-making skills, basic academic skills, and skills needed in life roles.

As described in AEL's "EBCE Implementation Guide" (1976):

> Experience-Based Career Education (EBCE) is an alternative secondary education program designed by the Appalachia Educational Laboratory (AEL) in Charleston, West Virginia.
>
> EBCE provides high school students an alternative to the traditional junior and/or senior program of classroom learning. Through EBCE, students obtain academic credit, explore the real dimensions of many careers, learn about who they are and what they want to become and master some of the skills they will need to successfully negotiate the complex world of adult living. EBCE's goal is not to train students for specific jobs, but to provide students, by direct experience in the local community, an opportunity to learn the process of career decision-making; not to use occasional field trips to supplement classroom study, but to actually study their academics in the context of experience sites (a community business where EBCE students learn with assistance from one or more employees; this term is used interchangeably with site and job site) and people in the community,

not just to learn about responsibility, values, and maturity, but to become more responsible and mature, and to begin developing a conscious and consistent set of values.

Instead of attending classes, as in a regular high school, EBCE students: 1. look at the many different places to work in the community; 2. choose the places and jobs they want to know more about; and 3. spend 3 to 13 weeks (non-paid) exploring careers at the job sites they have selected.

To help students earn academic credit, EBCE provides individualized instruction by professional teachers--called Learning Coordinators or LCs (the professional staff members who develop and monitor a student's program). Working with each student individually, LCs are able to incorporate academic learning with career exploration experiences at job sites, and these experiences into earned credits. Certified teachers receive five days of intensive training at AEL/EBCE before becoming LCs, and continuing on-site technical assistance from AEL staff during their first year in the LC role.

The original proposal stated the following purpose:

The intent of the program proposed for this grant is to implement an EBCE model in Cumberland Center, to demonstrate EBCE and provide technical assistance to potential adopters of EBCE, especially in Region 1. We will achieve this by meeting the following objectives:

6b. Goals and Objectives

I. Student Objectives

A. EBCE students will increase their abilities in the basic skills' areas at least as much as comparison groups of students enrolled in traditional high schools.

B. EBCE students will increase their knowledge of the world of work and career awareness skills; will increase knowledge of own abilities, interests, and aptitudes in relation to careers, and will have positive attitudes towards career planning.

C. EBCE students will improve in the life skills needed for their transition to adulthood (e.g., learning to assume more responsibility for themselves, communicating with others in a mature way) and will increase their motivation to learn.

D. EBCE students will have a positive attitude toward EBCE and a positive assessment of the effectiveness of EBCE.

E. Parents of EBCE students and participating employer/community resource persons will have a positive attitude toward EBCE and a positive assessment of the effectiveness of EBCE.

II. Outreach Objectives

MSAD #51's EBCE program will:

A. Develop a plan for outreach to include slide tape presentations, printed announcements, staff presentations at professional meetings, etc.

B. Develop as a training center.

C. Develop expertise to provide technical assistance.

D. Develop an evaluation program that will provide technical data on the effectiveness of EBCE.

Following an EBCE experience, students will have gained more job related skills, thus their potential for meaningful placement will have increased.

6c. Project Design

MSAD #51 has operated the EBCE program since September 17, 1976, in the areas of program planning and staff training and has operated with students since February 1, 1977. This report covers the project's entire three years through September 16, 1979.

After a thorough investigation of EBCE models, including a search of the literature and a three-day workshop with the four EBCE laboratories, MSAD #51 selected Appalachia Educational Laboratory (AEL) as the most appropriate model design for our community.

The first phase of the project included hiring and training of staff, organization of office and community resources, recruitment of students, and orientation of MSAD #51 staff. The second phase of the project was implementation of the Experience Based Career Education model. This second phase was continually revised for each of the five separate semesters that the program operated at Greely High School. The third phase was the dissemination of materials and the provision of training to other school districts.

The instructional staff (Learning Coordinators) was made up of professionals certified in secondary education by the Maine State Department of Educational and Cultural Services. Although all staff were generalists, each had a different major

academic strength. Math, foreign languages, English, social studies, and science were the areas represented. The experience of the staff varied from just student teaching to ten years of classroom experience. There was no evidence to indicate that one type of staff was more successful than another. Success as a Learning Coordinator (LC) seemed to be based on level of commitment and the ability to relate to students more than on preparation or experience.

Two of the instructional staff were trained by AEL staff at their demonstration site in Charleston, West Virginia. The other two LCs were trained by the project staff during the second year of operation. It appeared that the source of training had little effect on the success of LCs.

Although each LC used their own style, they utilized the methods designed by AEL. Each LC style seemed to be equally successful.

A total of one-hundred and three students earned credit while participating in the project over the five semesters. New Educational Directions, Inc. (third-party evaluator) addressed the question, "What type of student is attracted to EBCE?" New Educational Directions (NED) concludes, "The EBCE group is composed mostly of juniors and seniors, is equally divided between males and females, and represents a wide range of academic achievement."

Appalachia Educational Laboratory, Charleston, West Virginia, developed a comprehensive model of Experience Based Career Education. Two major student documents were developed by AEL and utilized by MSAD #51.

1. Student Program Guide--this was an individualized educational program (IEP) that each student used. It was utilized throughout the semester as the major monitor of academic growth. The following sections outline the content of this book:

   a. Assessing and Implementing Career Interests and Aptitudes

   b. Assessing and Implementing Academic Interests and Needs

   c. Recording your EBCE Activities

2. Student Career Guide--is a guide for self-directed and collaborative career planning that is used with actual on-the-job experiences. It is an individualized career curricula manual. The following sections outline the contents of this book:

   a. Comparing your personal traits to job characteristics.

   b. Discovering your values as related to work situations.

   c. Finding out about you and the world of work.

   d. Reviewing your career growth.

Through the use of these AEL-developed documents, a student would assess both academic and career needs before developing the appropriate individualized educational program (IEP) with their LC.

The cross-reference catalogues developed by AEL identified twenty-eight courses in five major curricula--math, social studies, natural science, career education, and English/communication. Through the use of the EBCE course and interest area matrix, students were able to identify interdisciplinary concepts. With the use of a community site, a student would identify activities that would relate to identified academic concepts. The student would develop a weekly Student Activity Sheet (SAS, Appendix A) that organized all aspects of the IEP for each major objective.

During the first week of the semester, the student would be oriented to EBCE concepts. Each student would

   a. Assess academic and career needs

   b. Identify a course of study

   c. Select at least three community sites to visit

   d. Develop first SAS

Once oriented, the student would follow a weekly schedule. This included four days at a community site and one day at school. Students would spend an average of four weeks at one community site and move on to another site.

The in-school day (called "in house") involved the following activities:

a. Individual meeting with LC for minimum of one hour.

b. Development of SAS for the following week.

c. Evaluation of previous week's academic effort and site performance.

d. Identification of new sites to be visited.

e. One hour group guidance session.

f. Identification and utilization of in-school resources.

The student selected community sites from an evaluation of learning guides.

Learning guides utilized a model designed by AEL that described in detail the activity available at the job site and the parameters of each. Each learning guide was specifically written for each site and revised after a student visited the site.

A monitoring system developed by AEL was used to monitor resource site availability, a resource person only worked with one student at a time.

It should be noted that the first semester the project attempted to utilize MSAD #51 curriculum. Through a series of workshops, Greely High School faculty identified sub concepts and interest areas from existing curricula.

As the staff developed expertise in developing IEPs it became more valuable to use the AEL curriculum because it lent itself to interdisciplinary activities. It was just a case of, "not reinventing the wheel."

As the student became more experienced in EBCE concepts, he/she would identify interest areas and sub concepts without needing the EBCE course and interest area matrix. With experience, the academic interest areas related more and more to current job site.

6d. Project Results

The results of this project include but are not limited to the following:

1. During five semesters of operation, 103 different students successfully completed at least one semester of EBCE.

2. Greely High School had an AEL EBCE operational demonstration program from which other schools learned.

3. Sixteen educators were trained in the AEL model as learning coordinators and site analysts.

4. Twenty educators representing twelve different school systems were trained in the Maine Community Based Education model. Also MSAD #51 assisted in training the staff of Maranacook Community School in the Far West Laboratory (FWL) model of EBCE.

5. Ten different school systems in Maine are currently operating a community based education program for high school students.

6. Coordinated training for a middle-school community education program. Seven educators were trained from three different school systems.

7. Dissemination of MSAD #51's accomplishments through two national conferences (American Personnel and Guidance Conference and National EBCE Networks Conference).

8. MSAD #51 has a program operating on local funds utilizing EBCE as one option to deal with dropouts and potential dropouts.

9. Developed and disseminated two EBCE brochures describing MSAD #51's program.

10. The Northeast Educational Consortium (an independent nonprofit educational corporation) was identified by the Maine Commissioner of Education as the Maine State Department of Educational and Cultural Services' Agency for dissemination of EBCE. (Appendix C)

11. A group guidance program was developed by staff. (Appendix D)

12. Developed a curriculum for Typing I and II and Shorthand.

Twenty-six specific functions were defined in the original proposal for the implementation of the project objectives. The results are as follows:

1. Director hired and staff needs reviewed

2. Staff Hired

Although some minor staff changes did occur during the life of the project, all positions continued without interruption. The only significant change was the emergency leave of the director on February 28, 1979. Since a plan of action (Appendix F) was developed to insure continuation of project activities, the

transition was smooth. It should be noted that the director served as a consultant through the end of the project. The staff consisted of a full-time Director; two full-time LCs the first and third year, three full-time LCs the second year; a part-time placement coordinator; and a full-time secretary.

3. Coordinate transportation

Transportation presented minor difficulties for the project during the first two years. The project was always able to get participants to a site when the participants were supposed to be there by using one of the two buses available to the project or by participants furnishing their own transport. The difficulties were budgetary in nature. The bus drivers' salaries were double the budget. Maintenance costs, including gas and oil supplied by MSAD #51, exceeded budget expectations by a 100%.

During the last year of operation, more combined transportation was utilized by using already existing MSAD #51 scheduled buses and the transportation expenses stayed within the project budget.

4. Organize office and order materials

As a direct result of the Federal Evaluation team's visit in June, 1977, the project office was reorganized to provide separate office space for each staff member. Office facilities were provided by MSAD #51. Each staff member had adequate office supplies and equipment, desks, chairs, files, tables, paper, art supplies, etc. An adequate library of materials was maintained at the EBCE office.

5. EBCE orientation to GHS faculty

One project staff member was assigned to attend all Greely High School Faculty meetings. In addition five inservice programs were presented to MSAD #51 faculty during the life of the project, one each semester.

6. Staff training and development

Three MSAD #51 staff were trained by AEL while the remaining staff were trained at the MSAD #51 workshop the first year of the project. Four staff members were

trained in the Far West Laboratory model of EBCE while assisting in the training of Maranacook Community School. One staff member was trained in the Research for Better Schools (RBS) model of EBCE while assisting in the training of the Raymond School System. Staff participated in the national EBCE conferences as well as the national AEL EBCE conferences.

7. Site analysis

Site analysis was an ongoing process. The project developed approximately one hundred fifty resource people within the first year and maintained that level throughout the life of the project. Students took an active role in developing and updating sites. Each student was required to complete a feedback form on each site visited (Appendix G-1).

8. Curriculum development and review

The LCs utilized the AEL-developed curriculum during the second year of operation. In addition to the AEL curriculum, project staff developed courses in Physical Education, French I and II, Typing I and II, Office Procedures, Biology, and Current Affairs. Copies of these materials are available from MSAD #51. Curriculum development and review have been an ongoing process for the project staff.

9. Purchase resource materials

This was initially accomplished during the project's first year. It should be noted here, however, that resource materials were constantly added to the project's resource pool as the need for them was identified by the LCs. An adequate library of materials was maintained at the EBCE office. Students also had full access to the Greely High School Library.

10. Advisory Committee

The Advisory Committee was formed in December, 1977. During the first two years, it met only six times. The committee was, therefore, inactive and was a weakness.

In order to better utilize the expertise of an advisory committee, it was reorganized prior to the last year. During the final year, the committee met monthly and took an active role in the campaign to get local funding for EBCE.

11. EBCE newsletter

During the first year, the project produced one formal newsletter. Although articles describing the project were in local newspapers as well as the school community newsletter, this effort was considered less than adequate by the staff. Therefore, the second year the project produced approximately one newsletter per month. The last year of the project, the students took an active role in the newsletter (called Career Cram) and at least two per month were issued (example Appendix H).

12. High School faculty curriculum workshops

During the first year of the project, a formal workshop was held. Greely faculty from all five curricula areas participated. The curriculum material was used one semester with students. As a result of a joint review by the Greely faculty and EBCE staff, the project adopted AEL curricula for the remaining four semesters.

13. Student selection criteria finalized with high school faculty

Criteria for selecting students to participate in the EBCE program were established in November, 1976. The criteria for selection into the program focused on:

a. The student's ability to work without direct supervision;

b. The student's attendance record;

c. The potential of the student to benefit from an experience based program.

It should be noted that self selection was the major criteria that emerged. A policy was established the second year that did not allow rejection of any applicants. If EBCE seemed to be an inappropriate program for a student (determined by EBCE staff), then the student would be referred to the Pupil Evaluation Team (PET). All recommendations of the PET were honored.

14. EBCE orientation for GHS students. 15. Student registrations

During May-June and December-January of each year, EBCE staff and students publicized the program at GHS and neighboring Yarmouth High School. This publicity consisted of posters, assembly programs, and personal contacts with students.

As a result of these efforts, 103 students were recruited to participate in the project's five operational semesters for a total of 143 student semesters.

16. EBCE staff inservice for sex-fair guidance

The project director attended a Capital Publications' workshop on sex role stereotyping. During staff meetings the project director updated staff on this subject.

It should be noted, however, that the intent of this function was to provide the EBCE students with experiences which will create an awareness of and which are free from sex stereotyping and sex bias. These experiences were provided through the use of audio-visuals and discussions in the weekly "Group" sessions, through the use of sex-fair instructional and guidance materials, through exposure to RPs and others as non-traditional role models at sites, and through non-traditional site placements. The following non-traditional role models were available to EBCE students.

1. Wolke Ford Body Shop, auto body repair--female
2. Jackman Blacksmith, female welder
3. FAA Control Tower, air traffic controller--female
4. Dr. Jeanne McDonald, female orthodontist
5. Benda Hospital, male nurse
6. UMPG Day Care Center, male pre-school teacher
7. Environmental Planning and Design, female draftsman

8. Maine Stream, male pre-school teacher

9. Maine Aviation, female pilot

10. Cumberland Elementary, male physical ed K-4

Non-traditional placements are summarized in Table 1 below.

TABLE 1

Non-traditional Site Placement

Sex of Student	Non-traditional Role Model	Non-traditional Occupation Explored	Number of Weeks Exposed to Non-traditional selection
M	female blacksmith		4-7-2-4
F	female orthodontist	female orthodontist	2
M	female body shop manager		7-10-5
F		security division jetport	2
M	female air traffic controller		1
F		diesel mechanic	4
M		bakeshop	3
F		gas station attendant	2
F	female pilot	flight school	3
F		art director-- T.V. studio	4
F		potter	4
M		physical education-- deaf children	4
F		engineering-- WMTW T.V. station	4
F		engineering-- WCSH T.V. station	4

TABLE 1 (cont.)

Sex of Student	Non-traditional Role Model	Non-traditional Occupation Explored	Number of Weeks Exposed to Non-traditional Selection
M	male preschool teacher	preschool teacher	4
M		orthodontist lab assistant	2
F		local police work	3
F		city police dept.	1
F	male preschool		5-4-6-3
F		job service counselor	6-4
M		physical therapist	4
F		audiologist	2
M		cerebral palsy physical therapy	7
M		training mentally retarded	4

17. EBCE students begin program

The EBCE program began with students on schedule in January, 1977. Each semester start coincided with Greely High School schedule.

18. Technical assistance from AEL

As noted in the First-Year Third-Party Report, the project benefitted from receiving AEL technical assistance on ten separate occasions between September 1976 and July 1977.

During the project's second operational year, AEL technical assistance was directly utilized on two separate occasions. MSAD #51 received technical assistance from AEL staff via phone on numerous other occasions. Since Karen Pfiffner, AEL staff member was available to NEEC under state strategy, she was in Maine on three additional occasions. MSAD #51 staff were able to utilize Ms. Pfiffner for TA on each of these occasions.

During the project's third operational year, AEL technical assistance was only used indirectly. The staff maintained telephone communication and participated in national EBCE and AEL conferences where there was contact with AEL staff.

19. Interim reports

The funding agent required quarterly reports. All reports were submitted on schedule and the body of each is included in Appendix I.

20. Slide-tape inservice orientation

During the first year of the project, the AEL EBCE slide-tape program was used. During the second year, the AEL slide-tape was adapted to include MSAD #51 slides. The last year two students developed a new slide-tape program that was used as a major orientation tool through the remainder of the project.

21. Planning for summer workshops

MSAD #51 assisted in four major training workshops during the life of the project.

The first workshop was an AEL EBCE training program conducted during the summer of 1977. Sixteen educators were trained during this workshop.

The remaining workshops were coordinated with the Northeast Educational Consortium (NEEC). The Director of the project, Roy Bagley, served for one year as president of NEEC. During this year (second year of project) NEEC contracted with National Institute of Education to provide training of EBCE in Maine. MSAD #51 project staff were active in all phases of this training.

Three workshops were conducted through NEEC.

1. Seven staff from three school departments from Maine participated in a junior high EBCE training program using the RBS model during the second project year.

2. Maranacook Community School contracted with NEEC to train their staff in the FWL model of EBCE. Ten other school systems participated in this training.

3. During the final year of the project, twenty-nine educators representing twelve school systems were trained in the NEEC developed Maine Community Based Education program. The manual is attached as Appendix J.

22. Student Evaluation

Ongoing student evaluations were accomplished by the Resource Person's (RP) who completed an RP Evaluation Form (Appendix G-2) on each student as she/he completed an experience at the site. These forms were reviewed with the student by the LC. Student progress was also evaluated weekly by the LC in each course through the use of the Student Activity Sheet (SAS) and summarized every nine weeks on the Nine Week Evaluation Form with both of these forms also reviewed with the student.

23. Final Report

This report complies with this function and it is anticipated that it will be submitted on time.

24. Program Evaluation

This is discussed in the Evaluation section of this report

25. Visits to EBCE sites

All EBCE sites at which students are placed were contacted weekly and visited regularly by either the LC or the Site Placement Coordinator. The purposes of these visits were to monitor student progress and the experiences being provided by the site. It also served as a means to maintain open communication between site and project personnel.

26. Technical assistance to summer workshops

Since the NEEC was formed to provide all community based education an opportunity to acquire training and technical assistance, this function has been well fulfilled. All Maine Superintendents were notified and invited to participate in all training programs.

6e. Evaluation Activities and Results

Working with the MSAD #51 EBCE staff, NED developed a three-year evaluation plan (Appendix E) which was reviewed and accepted by the project staff in December, 1976. The evaluation plan identified twelve specific questions relative to the project's operations and outcomes which were to be addressed through the evaluation. The body of the first-year evaluation report and the evaluation section of the second-year interim report are included as Appendix K of this report.

In December, 1978, the evaluation timetable was revised. The project director requested that a major evaluation report be prepared for presentation to the MSAD #51 School Board during their spring budget deliberations. His reasoning was that the Board would need information concerning project impact at the time funding decisions were being made rather than, as originally scheduled, during the fall of 1979 after all decisions had been made. NED agreed with his rationale, prepared the report, and presented it at an April 2, 1979, meeting of the School Board. With the preparation of that report, data collection ceased for the evaluation questions covered in the report. A copy of that report is included as Appendix L of this report and frequent reference will be made to it in this section. Of the twelve specific evaluation questions, six are discussed in the interim evaluation report. To provide continuity the questions will be repeated here but the interim report will be referenced.

* WHAT TYPE OF STUDENT IS ATTRACTED TO EBCE?

  See Appendix L, page 2.

* WHICH ACADEMIC AND CAREER CONCEPTS ARE LEARNED THROUGH SITE EXPERIENCES AND WHICH REQUIRE HEAVY RELIANCE ON MORE TRADITIONAL LEARNING METHODS?

During MSAD #51 EBCE's first semester of serving students, the project attempted to teach traditional GHS courses through the AEL instructional techniques. During

the 1977-78 academic year, however, the project increased the fidelity of its replication of the AEL model by more directly using the AEL approach to courses as well as to the instruction of those courses. As noted in NED's September 22 and October 14, 1977 site reports, the EBCE students who had participated in the program's first semester and second semester endorsed the move away from GHS courses with comments such as, "Our assignments have a lot more meaning this year and they seem more important somehow."

During a May 1978 and April 1979 site visit, a NED staff member drew a random sample of Student Activity Sheets (SAS). SASs for all three LCs were in the samples. An inspection of these SASs revealed that student assignments are frequently interdisciplinary in nature as called for by the AEL model. Not surprisingly, the sites appeared to be utilized for teaching career education concepts including positive attitudes toward work and learning as well as providing students natural opportunities to handle independence, decision-making, and responsibility while functioning in an adult world. The more technical subjects such as chemistry and advanced mathematics tended to rely on traditional teaching approaches for instruction. On the basis of the reviewed SASs, however, it appears that site experiences did provide stimuli and meaning for academic assignments. For example, the record keeping required in a bank, gas station, or retail outlet gave meaning to mathematics assignments. Placements at a veterinarian's or doctor's office, in the research laboratory of a dairy, or in any of many hospital departments brought new life to basic science lessons. Placements with a trucker, in a lawyer's office, or in a television newsroom emphasized the need for communications' skills including writing skills. Site placements frequently provided exciting topics for compositions of far more meaning to the students than the gender represented by "What I did last summer."

* HOW DOES THE ACADEMIC ACHIEVEMENT OF EBCE STUDENTS COMPARE WITH THAT OF STUDENTS IN MORE TRADITIONAL HIGH SCHOOL PROGRAMS?

  See Appendix L, page 4.

* HOW DO EBCE STUDENTS COMPARE WITH OTHERS ON THE ATTAINMENT OF CAREER EDUCATION KNOWLEDGE, ATTITUDES, AND SKILLS?

  See Appendix L, page 8.

* WHAT IS THE EFFECT OF EBCE UPON LONG-TERM RETENTION OF ACADEMIC LEARNING?

As has been noted earlier, during the EBCE program's first semester of operation the course titles and content of the EBCE courses were largely those of GHS's school-based program. Therefore, the Three-Year Evaluation Plan called for administering the same teacher-made final examinations for EBCE students as were administered to GHS students in June, 1978. The long-term effect upon retention of academic learning was to have been tested once during the project's funded life. In June, 1979, the same examinations were to have been readministered to the EBCE students and to a matched comparison group of GHS students to test the hypothesis that more academic course content is retained on a long-term basis by EBCE students than by students who learn in the traditional classroom setting.

The scheme of using GHS final examinations for EBCE students with a GHS comparison group ceased to be a viable approach when the EBCE course offerings no longer were completely parallel with GHS courses. This situation was discussed in some detail by a NED representative and the project staff during NED's December 12-13, 1977 site visit. On the basis of those discussions, the project staff and NED agreed to delete this question from the Three-Year Evaluation Plan because no adequate procedures or comparison group could be identified to test the basic hypothesis.

* WHAT BECOMES OF EBCE STUDENTS AFTER THEY LEAVE THE PROGRAM?

  See Appendix L, page 13.

* HOW DO EBCE STUDENTS VIEW THE PROGRAM?

Although this question is discussed in the interim report (Appendix L) beginning on page 12, Table 2 below presents additional information on how students' viewed their site experiences and their RPs (Resource Persons).

TABLE 2

Student Resource Person Feedback Form Responses as a Percent of 122 Forms Completed 1977-78, 159 *Forms Completed 1978-79*

-The Resource Person USUALLY treated me as:

a student	15.6	*23.9*	student-adult guest	2.5	--
a student-coworker	10.7	*2.5*	a child	---	*0.6*
coworker-adult guest	2.5	*2.5*	if I was not there	2.5	*2.5*
a coworker	59.8	*53.5*	Omit	4.1	*1.3*
an adult guest	2.5	*13.2*			

	Almost Always		Frequently		Usually		Seldom		Almost Never		Omit	
	77-8	*78-9*	77-8	*78-9*	77-8	*78-9*	77-8	*78-9*	77-8	*78-9*	77-8	*78-9*
The Resource Person:												
Understood my needs	50.0	*57.9*	27.0	*22.0*	17.2	*12.6*	4.1	*5.0*	0.8	*1.9*	0.8	*0.6*
Understood and accepted my faults	63.9	*63.5*	21.3	*17.6*	10.7	*15.7*	1.6	*1.3*	0.8	*0.6*	1.6	*1.3*
Was friendly	86.9	*86.8*	5.7	*8.8*	6.6	*3.8*	---	---	0.3	*0.6*	---	---
Was courteous	82.8	*85.5*	9.8	*8.2*	5.7	*4.4*	---	*1.3*	0.8	*0.6*	0.3	---
Was sincere	81.1	*83.0*	11.5	*10.1*	5.7	*5.0*	0.8	*1.3*	0.8	---	---	*0.6*
Was honest	86.9	*87.4*	6.6	*5.0*	4.9	*5.7*	---	---	0.8	*0.6*	0.8	*1.3*
Responded to my questions in a helpful way	70.5	*82.4*	17.2	*11.3*	8.2	*3.8*	2.5	*1.9*	1.6	---	---	*0.6*
Was helpful in meeting my needs	59.8	*69.2*	21.3	*15.7*	10.7	*8.2*	4.1	*3.1*	2.5	*3.8*	1.6	---

TABLE 2 (cont.)

For me, I rate this experience overall as:

excellent	47.5	*54.1*	poor	3.3	*3.1*
good	30.3	*31.4*	useless	1.6	*0.6*
average	16.4	*9.4*	omit	0.3	*1.3*

In the judgement of the students involved in these site placements during the two-year period for which data are available, the great majority of them are viewed as worthwhile experiences. During the 1978-79 year over 85% of the placements were rated as good or excellent while less than 4% of them were rated as poor or useless. Indeed, the only areas of *relative* weakness for the RPs identified by participating students are understanding students' faults and needs and meeting students' needs. It cannot be emphasized too strongly that these are identified only as areas not rated as consistently high for RPs as other areas. It is interesting to note, however, that there was a slight overall trend upward in the rating from 1977-78 to 1978-79.

* HOW DO EBCE STUDENTS' PARENTS VIEW THE PROGRAM?

See Appendix L, page 15.

* HOW DO PARTICIPATING RESOURCE PERSONS AND SITE COORDINATORS VIEW THE PROGRAM?

This question is also discussed in the interim report on page 15. Table 3 is presented as supporting evidence for the data provided in Table VI of the interim report.

TABLE 3

Resource Person's 1977-78 and 1978-79
Mean Ratings of Students

		Mean Ratings	
		1977-78	1978-79
1.	Accepts and understands the needs, feelings and faults of others	3.90	4.10
2.	Exercises good judgment	3.93	3.82
3.	Is friendly and courteous	4.27	4.10
4.	Has a sense of humor	4.07	4.00
5.	Is accepted well by other employees	4.14	4.18
6.	Is dependable	4.15	4.05
7.	Conscientious in fulfilling assignments	4.16	3.96
8.	Follows directions	4.18	4.01
9.	Work is neat and accurate	4.02	4.02
10.	Is honest and sincere	4.24	4.15
11.	Asks appropriate questions	3.85	3.63
12.	Is cooperative and industrious	4.14	3.97

Total = 226 Student Evaluation Forms included in 1977-78, 97 in 1978-79.

5 = Excellent
4 = Above average
3 = Average
2 = Below average
1 = Poor
0 = Not observed

The RP's responses to questionnaires and interviews throughout the project's life found them consistently supportive of the program and its efforts. These results are detailed in each of the project's first two year-end reports.

* WHAT IMPACT DOES THE EBCE PROGRAM HAVE UPON THE SENDING HIGH SCHOOL?

In the First-Year Third-Party Report (August 1977) it was noted:

> . . . at this point. . . the GHS faculty is not unanimously supportive of the project's efforts. There is good evidence that the basic concept of EBCE is acceptable to most of the GHS faculty as represented by the school's administrators and department heads. A concept by nature is easier to accept in the abstract and in the early planning stage, than in operation when the full implications of the program and associated difficulties are faced.

The project was never able to obtain the full support of three key persons on the Greely High School staff. These people, the principal, assistant principal, and guidance counselor did cooperate in identifying and providing comparison groups for the project's evaluation and they did refer some students to EBCE. It appeared, however, that they did not buy the project's basic premise that young people can learn academics adequately in other than a traditional structured setting. This very basic difference in philosophy and approach to learning between those key individuals and the project staff was there and remained unchanged before, during, and after the project's existence.

* WHAT RESULTS FROM PROJECT EFFORTS TO DISSEMINATE EBCE IN MAINE?

The project's dissemination efforts are detailed and discussed in Section 6 of this report. NED has inspected the project records including attendance rosters for training sessions and can verify the validity of all statements concerning dissemination made in the body of this report. Indeed, it is somewhat ironic that as MSAD #51 is curtailing its EBCE efforts, at least ten other school districts are adopting variations of them.

* HOW DO PROJECT STRATEGIES AND PROCESS COMPARE TO THE STIPULATIONS OF THE FUNDING PROPOSAL?

Since the twenty-six items under this question are discussed in detail in Section 6d of this report, they will not be re-presented here. It must be noted, however,

that NED does verify all evaluative statements made in the discussions of question 1. The project staff did an outstanding job of meeting the stipulations of the proposal.

The evidence obtained through the project's evaluation activities over the three-year period attest to the overall success of the project. An effective staff team was assembled, high quality services were delivered to more than one-hundred young people, and the viability of EBCE was sufficiently demonstrated for ten Maine school districts to adopt similar approaches. What is not conveyed by the evaluation data is the tone of the project. What cannot be seen are the young people, many of them average and above average students academically, who entered into the EBCE experience indifferent to learning and, in some cases, indifferent to themselves. What cannot be seen is the, at first almost imperceptable, changing of that indifference into a zest for learning and an enthusiasm for life. What cannot be seen are the young people who for the first time during their school careers experience repeated personal and academic successes through the EBCE experience. What cannot be seen is students learning to cope with freedom by developing self-discipline because it is expected of them by their classmates and by the EBCE staff. Yet, all of these things did happen! The evaluation evidence indicates that students apparently achieve as well academically in the freedom of the EBCE environment as their peers achieve in the highly structured traditional setting with its external controls. In addition to the academic learning, however, the EBCE students demonstrate maturity and self-confidence at a level not demonstrated by their non-EBCE peers.

Why then, if all of these positive things occur, is not EBCE being continued in MSAD #51? Why is it not adopted by all of Maine's school districts rather than ten? In previous sections of this report the former project director has presented some possible answers to these questions. In NED's judgment, the two primary reasons are costs and the prevailing attitudes of educators. In a setting such as MSAD #51, EBCE

as it was practiced does not reduce the students in any given classes sufficiently to reduce regular staff, so EBCE costs are in excess of the costs of the regular high school program. Although most educators endorse the concept of individualized instruction, many of them have difficulty accepting as individualized an approach as was practiced in MSAD #51's EBCE program. This is particularly true when it is offered in a non-traditional setting which uses uncertified community members as a major teaching resource.

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EVALUATION PLAN FOR CUMBERLAND CENTER EXPERIENCE BASED CAREER EDUCATION

December 1, 1976

Pursuant to its contract with Cumberland Center Experience Based Career Education Program (CEB) to serve as the project's third-party evaluation agency, New Educational Directions (NED) submits the following evaluation plan. The plan is designed to span the full three years of the project's anticipated funding through the U.S. Office of Education.

The first section of the plan enumerates evaluation questions and the strategies for obtaining their answers. Evaluation questions were chosen jointly by NED and CEB with the intent of addressing the priority concerns of the funding agent, the Cumberland Center community, the project staff, and other school districts who in the future may consider adoption or adaptation of the CEB model. As CEB has chosen as its model the experience-based career education programs of the Appalachian Educational Laboratory, AEL's EBCE evaluation design was also given careful consideration in the development of this plan. The plan is designed to serve dual purposes by providing for the project staff's continuous needs for specific feedback concerning their progress and effectiveness while at the same time providing more global information needed by individuals external to the program as well as by those directly involved in CEB.

The second section of the plan is a chronological time schedule for evaluation activities while the third section describes the planned involvement in evaluation of each of several audiences.

QUESTION 1: HOW DO PROJECT STRATEGIES AND PROGRESS COMPARE TO THE STIPULATIONS OF THE FUNDING PROPOSAL?

By December 31, 1976, NED will develop a checklist of milestones and key AEL components on the basis of the CEB proposal timeline and the AEL model. During monthly site visits, NED will review each item with CEB staff. Where deviations from, elaborations of, or additions to original plans are noted, changes and their rationale will be documented. This ongoing documentation will be the primary responsibility of the project director, but NED will also enter into the record comments on significant matters of this nature. Both NED and CEB will maintain current files of memoranda prepared by both parties. The checklist and back-up documentation will serve as a framework for the project's interim and final performance reports.

The checklist and associated monitoring system will also address the stipulations of this evaluation plan. CEB will assume the monitoring role for NED's evaluation activities and NED will take the primary responsibility of documenting and justifying revisions of the evaluation design presented here.

QUESTION 2: WHICH ACADEMIC AND CAREER CONCEPTS ARE LEARNED THROUGH SITE EXPERIENCES AND WHICH REQUIRE HEAVY RELIANCE ON MORE TRADITIONAL LEARNING METHODS?

Student activity sheets will serve as the data base for this evaluation component. Activity sheets include code numbers referencing the sub-concepts for which the activity is designed. Although sub-concepts (e.g., grammar) are inter-disciplinary, they are associated with a concept (e.g., writing) and with a discipline (e.g., English) as seen in the course and interest area matrix.

CEB learning coordinators (LC's) will be responsible for assessing each activity sheet according to the following code:

1) Experience site resources are essential to the completion of the activity.

2) Learning lab resources or in-house instruction are essential to the completion of the activity.

3) Both are essential.

Whether this analysis is accomplished on a continuous basis or periodically will be left to the discretion of LC's. NED will occasionally spot-check the LC's assessments to assure uniform application of the primary learning resource code. Each month the preceding month's activity sheets will be tabulated to show the number of activities corresponding to each sub-concept and the primary learning resource(s) utilized. Summations will be performed across sub-concepts within concepts and across concepts within disciplines. Monthly results will be tabulated annually and included in interim evaluation reports.

During the project's first semester of operation these results will be useful in identifying any needs for more effort in developing activities which capitalize maximally on the resources of experience sites. Later in the project, after LC's are well-experienced in activity sheet development, results will indicate either that 1) experience-site resources are a viable alternative to the exclusive use of school-based resources for learning all sub-concepts of the CEB curriculum or 2) that some sub-concepts require extensive reliance on more traditional learning methods. Should the latter be the case for a large number of sub-concepts within a concept (or within a course), the project will be able to identify courses which should be considered for elimination from EBCE offerings.

QUESTION 3: HOW DOES THE ACADEMIC ACHIEVEMENT OF EBCE STUDENTS COMPARE WITH THAT OF STUDENTS IN MORE TRADITIONAL HIGH SCHOOL PROGRAMS?

In accordance with the precedent set by NIE's EBCE evaluation model, reading comprehension and mathematical skills will be assessed through appropriate scales of the Comprehensive Test of Basic Skills (CTBS). The CTBS language skills test will also be used.

The research hypothesis is that students' academic achievement at the termination of a year-long EBCE program will be equivalent to that of students in comparison groups. NED is well aware that no research design can substantiate an inference of no differences, but an absence of measurable differences will be accepted as the best possible evidence that the groups' achievement is equivalent.

Both comparison groups and the EBCE group will be tested on a pre-post basis. Assuming that no significant differences are found in pre-test means, the significance

of differences in group means of post-test scores will be assessed through the analysis of covariance, where pre-test scores will serve as the covariate. Observed p values of .1 or less will lead to rejection of the research hypothesis of no difference. If differences among the three groups are found, Dunnett's test for multiple comparisons will be applied to determine which comparison group differed from the EBCE group, again using the .1 alpha level.

The following groups will be identified each year:

EB--all EBCE students

CG--an equal number of students from Greeley High School, where some school-based education takes place. Although the statistical design does not call for matched pairs, this group will be selected on a matched-pair basis. That is, another Greeley High School student will be chosen to match each EBCE student in terms of: 1) grade level, 2) sex, 3) curriculum (business, college preparatory, or career), 4) the math and English course in which the student was enrolled the previous year, 5) the grades received in these courses.

CY--an equal number of Yarmouth High School students. Yarmouth is in a neighboring district to S.A.D. 51 and has no career education program. Since the major shortcoming of the CG group is that it does not allow control of the student factors entering into the decision of whether to volunteer for the EBCE program, the CY group will be selected in such a way as to correct this problem, at least in part. Yarmouth High School students will undergo the same recruiting and selection procedures for EBCE as do Greeley students, with the exception that it will be made clear that students are "applying for" a hypothetical program, which is not actually open to them. The only matching of CY students to EBCE students will be in that various grade levels will be equally represented in the two groups.

Since students typically will spend no more than one year in EBCE, student impact evaluation will encompass only one year's growth. Therefore, each year's evaluation will be independent of the other years. Year 2 and 3 test dates will fall in early September and early May. Year one pre-tests will be administered in early January. Only students completing the year-long program (or the semester program the first year) will be included in this evaluation component. Comparison group students with incomplete scores will be excluded from analyses.

It may be possible during the project's final year to use the year two CG and CY groups scores' as a comparison base. This will be done if the CG 1977-78 group's match with EB 1978-79 is acceptable on all factors itemized above, recruitment and selection procedures remain essentially unchanged from year two to year three, and the distribution of grade levels in EB 1978-79 is similar to that of CY 1977-78.

Somewhat unconventionally, this design permits the inclusion of students from different grade levels in a single group. Since enrollment in EBCE is anticipated to be only 25 the first year and is never expected to exceed 60, it is judged that sub-division of EBCE groups would result in too small an n for demonstrating any real differences between treatment and comparison groups. Since comparison and treatment groups' compositions will be equivalent with respect to grade level and since raw, rather than norm-referenced scores will be analyzed, this is seen as no major problem unless diversified grade levels within groups result in very large within-group variances, reducing the power of statistical tests.

QUESTION 4: HOW DO EBCE STUDENTS COMPARE WITH OTHERS ON THE ATTAINMENT OF CAREER EDUCATION KNOWLEDGE, ATTITUDES, AND SKILLS?

It is hypothesized that EBCE students' attainment of career education objectives will be superior to that of comparison groups. The experimental and comparison groups, testing schedule, and research design described under question three will be employed, with the exception that superiority rather than equivalence is hypothesized.

At least in the first year, and possibly in the second and third years, two instruments will be used in addressing question 4. The Career Maturity Inventory (CMI) was chosen because of its wide acceptance as an evaluation tool for career education, as witnessed by its application to NIE/EBCE model programs. The NED-developed Career Orientation Battery (COB) was chosen because of its more direct relationship to CEB's outcome objectives and its administration time of less than one-third of CMI's two and one-half hours. The revised COB form 912, designed for secondary students, was developed on the basis of psychometric data of the 912 experimental edition, which was administered to over 500 students during 1975-76. The revised form which will be used for CEB is also being used in the evaluation of another OE-funded EBCE program, where it will be administered to over 1,000 students in December, 1976. Content validity of the COB has been established through review by career educators nationwide.

The CMI consists of six scales:

Attitude Test

Competence Test

Part 1: Knowing Yourself

Part 2: Knowing about Jobs

Part 3: Choosing a Job

Part 4: Looking Ahead

Part 5: What Should They Do?

The COB consists of seven scales, the first six of which are described on the attached scale description:

Career Planning

Work Behavior

Attitudes toward School

General Occupational Information

Work Attitudes

Specific Occupational Information

Sex Equity

Job-Seeking Skills

Psychometric properties of the COB, including scale correlations with the CMI and the internal consistency of scales, will be investigated on the basis of pre-test data collected in January, 1977. These results and results of post-testing will be used in determining whether there is justification for eliminating either the COB or the CMI for year two and three evaluations. Another possible way of reducing testing time is through the use of selected scales of both the COB and the CMI.

QUESTION 5: WHAT IS THE EFFECT OF EBCE UPON LONG-TERM RETENTION OF ACADEMIC LEARNING?

It is hypothesized that more academic course content is retained on a long-term basis by EBCE students than by students who learn in the traditional classroom setting.

This question will be addressed only once during the three-year evaluation. Subjects will be eleventh graders who complete the year-long EBCE program in 1977-78 and their associated members of the 1977-78 CG group. EBCE students, like other Greeley High School students, will be enrolled in courses of the school's curriculum, even though the method of learning the material of these courses will be substantially different.

In May, 1979, a year after the EBCE experience, these treatment and comparison students, at this point seniors, will be tested on the content of their junior-year academic courses. The tests will be the final exams used by Greeley High School teachers who taught the courses during 1977-78. The EBCE and/or NED staff will work with these teachers during the Spring of 1978 on the development of tests which are more concept-oriented than typical teacher-made instruments; textbook publishers' tests also will be reviewed for recommendation as alternatives to teacher-designed tests. Teachers will be encouraged to use examinations yielding a numerical score, rather than a simple letter grade.

Teachers will administer their final exams in the usual manner in June, 1978. Copies of the tests and keys will be held on file when a full listing of students' scores. In May, 1979, treatment and comparison group students will complete all final exams corresponding to their junior course schedule. Objective tests will be scored by NED; others will be scored by the teacher who developed the test. Raw scores on each test will be converted to z-scores using as a reference the distribution of scores of the original administration of the tests as a final examination the previous year. Since the number of students taking any given test will probably be small, all normalized scores will be grouped according to the discipline of the course (English, mathematics, science, or social studies). Normalized scores of the EB and CG groups will be compared for each curriculum area using two-tailed t-tests for independent samples with an alpha level of .1.

Clearly, the bias of this evaluation strategy is in favor of the comparison group, as the test instruments will be more directly related to their classroom instruction than to EBCE instruction in the same concept. Encouraging and assisting teachers to develop concept-oriented exams will alleviate this bias to some degree, but it cannot be eliminated. An additional bias would result if the comparison groups had taken the examinations the previous year but the EBCE students had not. This bias will be corrected by administering the classroom final examinations to EBCE students at the conclusion of their junior year, even though there are no specific plans for using those test results.

QUESTION 6: WHAT BECOMES OF EBCE STUDENTS AFTER THEY LEAVE THE PROGRAM?

Annual follow-ups of all EBCE and comparison group students will be conducted for the duration of project funding. This means that first-year students will be followed-up twice and second-year participants once.

Two strategies will be employed in investigating EBCE leavers' re-adjustment to high school. First, final grade point averages in science, mathematics, English, and social studies courses will be computed for EBCE students returning to high school and compared to identically-computed GPA's of comparison group students of CG and CY. The analysis of variance will be used to determine whether the three groups show different GPA's. If they do, Dunnett's test of multiple comparisons will be applied.

Second, the first-year follow-up of EBCE students returning to Greeley High School will include interviews with their teachers conducted during the late fall. These semi-structured interviews will address comparisons of former EBCE students to other students in terms of maturity, study habits, and preparedness for the courses in which the student is enrolled.

Telephone interviews will be used to follow-up former EBCE students and students from both CG and CY comparison groups who have left the high school. These will be conducted by CEB LC's in the evenings during the summer and will focus on employment or educational status. Of special interest will be the difference between EBCE and comparison groups with respect to satisfaction with their current endeavors and the number of changes in their career plans since leaving high schools. Former EBCE students will also be questioned about their retrospective perceptions of their EBCE experiences.

QUESTION 7: WHAT TYPE OF STUDENT IS ATTRACTED TO EBCE?

Interviews with program applicants will include questions concerning the student's reason for interest in the program. Applicants will also be asked to compare themselves to friends who did not apply to EBCE. Responses will be recorded by CEB interviewers and analyzed by NED. Results will have implications for CEB recruiting practices as well as for the nature of the program itself.

EBCE applicants who are accepted into the program will be compared to the general population of Greeley High School on some variables to the CG group on others. Statistical tests of significant differences may be applied where appropriate but the major purpose here is to draw a profile of EBCE students in terms of how they vary from each other as well as from non-EBCE students.

EBCE students will be compared to Greeley High School students in their respective grade levels on the following variables:

1) School attendance records of the previous year

2) Average grades in English and math courses from the previous year

3) Sex

4) Proportions of representation of the academic and career curricula.

These results, influenced by both recruiting and selection practices, will provide indicators of the degree to which CEB is serving a diversified and representative group of Greeley students.

Comparisons will be made with CG students on the following variables:

1) CTBS, CMI, and COB pre-test scores

2) Numbers and types of extracurricular activities during the previous year

3) Career plans

4) Work history

Results of these analyses may provide insight into the underlying variables distinguishing students who are attracted to EBCE from those who prefer regular high school.

NED will report findings within one month of receiving the required data pertaining to each cycle of student selection and pre-testing.

QUESTION 8: HOW DO EBCE STUDENTS VIEW THE PROGRAM?

Student expectations prior to enrollment in EBCE will be addressed in screening interviews described under question seven.

At the conclusion of each site placement EBCE students will complete a short questionnaire evaluating the experience. Results will be tabulated and reported each semester.

Drop-out rates from the EBCE program will be reported, as well as students' reasons for leaving the program prematurely.

All EBCE students will be asked to complete a short questionnaire upon leaving the program. Some items will call for the students' absolute judgements of various aspects of the program while others will require comparing EBCE to the regular high school program. Results will be tabulated and reported annually.

EBCE graduates will judge their EBCE experience during follow-up interviews described under question six.

QUESTION 9: HOW DO EBCE STUDENTS' PARENTS VIEW THE PROGRAM?

Whenever a student leaves the EBCE program, a brief questionnaire will be mailed with return postage to his/her parents to assess parental attitudes toward CEB. Results will be tabulated and reported annually.

QUESTION 10: HOW DO PARTICIPATING RESOURCE PERSONS AND SITE COORDINATORS VIEW THE PROGRAM?

At the conclusion of each site placement the student's RP will be asked to complete the AEL student Evaluation Form and to return it by mail to the CEB office. Results will be tabulated and reported annually to indicate the impression made by students on their RP's.

Each summer a random sample of RP's and site coordinators will be interviewed in person. NED Interview Guides will be designed to address the following question areas:

How is the intent of EBCE perceived?

How is EBCE seen to benefit students?

How does EBCE disrupt and contribute to sites?

How effective is CEB's management and coordination?

To what degree is site interest in participation maintained over a period of several years?

Is there a snowball effect among community businesses leading to increased participation in EBCE?

CEB's system of site identification includes a record of reasons given to the CEB staff for declining to participate in the program. These records will be tabulated and reported annually.

QUESTION 11: WHAT IMPACT DOES THE EBCE PROGRAM HAVE UPON THE SENDING HIGH SCHOOL?

Although no specific hypotheses have been formed in this topic, some impact of CEB on Greeley High School is likely.

During the spring of each year NED will interview Greeley's principal, vice-principal, guidance staff, and department heads in an attempt to identify any spin-off effects of the program.

As is his custom, the CEB project director will remain abreast of any changes in Greeley's curriculum which occur during the course of the project, with special attention to changes in career education practices in the school. The possibility of cause-and-effect relationship between CEB and observed changes will be investigated.

QUESTION 12: WHAT RESULTS FROM CEB'S EFFORTS TO DISSEMINATE EBCE IN MAINE?

Week-long workshops are planned in August, 1977, and 1978, for representatives of school districts in Maine considering the adoption of CEB's EBCE model. CEB will offer technical assistance to these districts on an ongoing basis through April, 1979.

NED will assist CEB in developing a system for continuous or frequent feedback from participants during the course of the workshops to assure that the program remains responsive to their needs. Final evaluation questionnaires addressing the quality of the full week's experiences will be administered at the week's conclusion and these results will be reported formally.

The quality of CEB's technical assistance will be assessed through questionnaires mailed to clients in April, 1978, and 1979.

The major thrust of evaluation activities concerned with question thirteen will be an investigation of any newly-developed EBCE programs. In cases where EBCE is found unfeasible for a district, CEB's dissemination efforts may nevertheless have an impact on the district's instructional practices; these results also will be investigated. The contact person of each district team participating in workshops and/or receiving technical assistance will be interviewed by telephone during December, 1977, and 1978, for the purpose of investigating the extent and nature of dissemination and CEB's model program.

1976-77

SCHEDULE OF EVALUATION ACTIVITIES

(CEB Activities in Parentheses)

Dec. 1-15	
Dec. 15-31	(Identify EBCE, CG, CY) 1--Checklist of milestones
Jan. 1-15	
Jan. 15-31	3 and 4--Pre-test (1/17-19) of EBCE, CG, and CY, using CTBS, COB and CMI Site Visit (SV)
Feb. 1-15	
Feb. 15-28	SV
March 1-15	
March 15-31	SV
April 1-15	
April 15-30	7 and 8--(Interview EBCE applicants for '77-78) 11--Interview principal, vice-principal, guidance and dept. heads SV
May 1-15	3 and 4--Post-test of EBCE, CG, and CY, using CTBS, COB, and CMI 8--Develop questionnaire for student evaluation of EBCE experiences 11--Written report on interviews of administrators
May 15-31	9--Develop EBCE parent questionnaire (Identify EBCE, CG, and CY for '77-78) SV
June 1-15	7--Written report on interviews of '77-78 applicants 8--(Students given questionnaire regarding EBCE program)
June 15-30	8--Written report on student questionnaires - site experiences and evaluation of EBCE program 7--Written report on comparison of '77-78 EBCE students to Greeley SV
July 1-15	9--(Questionnaire sent to EBCE parents)
July 15-31	10--Interview RP's and site coordinators 12--Develop questionnaires and evaluations for workshop SV
Aug. 1-15	Interim Report 12--(Workshop)
Aug. 15-31	SV

NOTE: Numbers refer to questions in the evaluation plan.

SCHEDULE OF EVALUATION ACTIVITIES 1977-78

(CEB Activities in Parentheses)

Sept. 1-15	3 and 4--Pre-test of EBCE, CG, and CY with CTBS, COB, and CMI
Sept. 15-30	SV
Oct. 1-15	7--SV written report on '77-78 EBCE and CG comparisons
Oct. 15-31	SV
Nov. 1-15	6--Teacher interviews regarding '76-77 EBCE students comparison and adjustments
Nov. 15-30	SV
Dec. 1-15	12--Telephone interview of '77 workshop participants
Dec. 15-31	SV
Jan. 1-15	
Jan. 15-30	SV
Feb. 1-15	8--Written report on student questionnaires regarding site experiences
Feb. 15-28	SV
March 1-15	
March 15-31	SV
April 1-15	7 and 8--(Interview EBCE applicants for '78-79) 11--Interview principal, vice-principal, guidance and dept. heads 12--Develop questionnaire for workshop participants
April 15-30	11--Written report on interviews with above 12--(Mail questionnaire to workshop participants) SV
May 1-15	5--Teacher workshop for final exam development 3 and 4--Post-test of EBCE, CY, and CG with CTBS, COB, and CMI
May 15-31	7--Written report on interviews of '78-79 applicants (Identify EBCE, CG, CY for '77 and '78) SV
June 1-15	5--(Junior year EBCE students take final exams) 5--(Get copies of final exams for EBCE and CG to be administered 5/79) 8--(Student questionnaire on EBCE experiences
June 15-30	6--(Copies of GPA sent to NED) 6--GPA of '76-77 EBCE students compared with CG and CY 7--Written report on comparing '78-79 EBCE students to Greeley 8--Written report on student questionnaires: 1) site experiences, 2) EBCE experiences 9--(Parent EBCE questionnaire mailed) SV
July 1-15	6 and 8--(Telephone interviews of '76-77 EBCE, CG, and CY H.S. leavers)
July 15-31	10--Interview RP's and site coordinators SV
Aug. 1-15	Interim Report 12--(Workshop)
Aug. 15-31	SV

1978-79

SCHEDULE OF EVALUATION ACTIVITIES

(CEB Activities in Parentheses)

Sept. 1-15	3 and 4--Pre-test of EBCE, CG, and CY with CTBS, COB, and CMI
Sept. 15-30	SV
Oct. 1-15	
Oct. 15-31	7--Written report of '78-79 EBCE and CG SV
Nov. 1-15	6--Teacher interviews regarding '77-78 EBCE students' comparison and adjustment
Nov. 15-30	SV
Dec. 1-15	12--Telephone interview of workshop participants
Dec. 15-31	SV
Jan. 1-15	
Jan. 15-31	SV
Feb. 1-15	
Feb. 15-28	8--Written report on student experience site questionnaire SV
March 1-15	
March 15-31	5--(Identify EBCE and CG) SV
April 1-15	11--Interview principal, vice-principal, guidance and dept. heads
April 15-30	11--Written report on interviews with administration 12--Mail questionnaire to '78 workshop participants SV
May 1-15	3 and 4--Post-test of EBCE, CG, and CY with CTBS, COB, and CMI
May 15-31	5--12th grade '77-78 EBCE and CG academic test for '77-78 courses SV
June 1-15	5--Academic tests scored by NED and teachers
June 15-30	6--GPA of '77-78 and '76-77 EBCE students compared to CY and CG 6--(GPA of '77-78 -EBCE, CG, and CY- students sent to NED) 8--Written report on student questionnaires: 1) site, 2) EBCE SV
July 1-15	9--(EBCE parent questionnaire mailed) 6 and 8--(Telephone interviews of '76-77 and '77-78 EBCE, CG, and CY H.S. leavers)
July 15-31	10--Interview RP's and site coordinators SV
Aug. 1-15	
Aug. 15-31	Final Report

GROUPS INVOLVED IN EVALUATION ACTIVITIES

Group	Activity	Time
Applicants	Interviews with CEB interviewers (See questions 7 and 8)	
EBCE, CG, and CY students	Comprehensive Test of Basic Skills, reading comprehension, math skills, language skills (refer to question 3)	Pre-test, post-test (Jan. 1977 - May 1977 Sept. 1977 - May 1978 Sept. 1978 - May 1979)
	Career Maturity Inventory Career Orientation Battery (refers to question 4)	
11th grade EBCE students in 1977-78 program associated with CG students	Final exams developed by Greeley High School teachers over courses taught in 1977-78 (refer to question 5)	May, 1979
EBCE students	Questionnaire (see question 8)	At conclusion of each site placement
EBCE students	Questionnaire (see question 8)	Upon leaving program
Former EBCE, CG, and CY students who leave high school	Telephone interviews (to check satisfaction with current endeavor, number of changes in career plan, and perception of EBCE program)	Summer evenings
Greeley H.S. 11th grade teachers	Devise final exams which are concept oriented (refer to question 5)	Spring, 1978
Greeley H.S. 11th grade teachers	Give the above mentioned final exams in usual manner, hold test, keys, and student scores (refer to question 5)	June, 1978
Greely H.S. 11th grade teachers	Each teacher who devised other than objective tests grade those tests (refer to question 5)	May, 1979
Greely H.S. teachers who have former EBCE students in class	Interviews (to get comparison of EBCE students to other students in regard to maturity, study habits, and preparedness) (refer to question 6)	Winter
EBCE parents	Questionnaire (see question 9)	When student leaves program
Resource person	Compute AEL Student Evaluation Form and return to CEB office (refer to question 10)	At end of site placement

Group	Activity	Time
Random sample of site coordinators and Resource Persons	Interview by NED (see question 10)	Each summer
Greeley's principal, vice-principal, guidance staff, and dept. heads	NED interview (see question 11)	Spring each year
Representatives of school districts considering adopting CEB's EBCE program	Week-long workshop Evaluation questionnaire	August, 1977, and August, 1978
	Questionnaire to assess assistance	April, 1978, and April, 1979
	Telephone interview to see extent and nature of CEB model program (see question 12)	December, 1977, and December, 1978

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First-year Third-party Report

S.A.D. 51's Experience Based Career Education Program

Cumberland Center, Maine

August 1977

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Appendices

Appendix A Evaluation Plan

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I. BACKGROUND AND OVERVIEW

The project director received notification of funding for the Cumberland Experience Based Career Education Program (CEB) on September 17, 1976, and New Educational Directions (NED) began working with the project on the following Monday when the project director made his initial visit to NED's Crawfordsville headquarters.

During the period September, 1976, to January, 1977, NED worked closely with the CEB staff as they organized for the delivery of services to students. The project is in Priority Area I and elected to replicate the Appalachia Educational Laboratory (AEL) model. Members of the NED staff participated in AEL training sessions along with CEB staff members. By December 1, 1976, NED had prepared a formal three-year evaluation plan (Appendix A) which identified the twelve evaluation questions around which this report is organized. The plan was reviewed by the CEB staff and found to be satisfactory.

During the project's first year, process and formative evaluation was accomplished through the utilization of questionnaires to the project's various audiences, NED staff observations during site visits, and interviews with high school faculty, students, and project staff. The project received feedback regarding these activities through regularly issued NED site visit reports and other written reports as required (Appendix B).

The assessment of student outcomes employed a pre-post design with two comparison groups. One comparison group was drawn from S.A.D. 51's Greely High School (GHS) which was the sending school for students enrolled in CEB and the second comparison group was drawn from neighboring Yarmouth High School (YHS). YHS's and GHS's populations and instructional programs are virtually identical with the exception that YHS has not been involved in career education programs whereas GHS had school-based career education for the three years preceding CEB. The instructional programs of the two schools are traditional in nature and both schools have reputations for very high-quality academic programs.

The CEB program for its first semester of serving students was quite non-traditional. CEB students spent one day each week "in house" and four days each week at a work site. During the student's "in house" day he/she worked with a Learning Coordinator (LC) in a one-to-one tutorial mode. During the student's weekly session with the LC the past week's academic assignments were reviewed and evaluated and the next week's academic program was cooperatively developed by the LC and the student including the establishment of objectives and the identification of the learning resources to be used.

Each of the points mentioned above is dealt with in more detail under the discussions of one or more of the twelve evaluation questions which follow in Section III of this report.

II. GENERAL SUMMARY

CEB staff have logged an impressive record of accomplishments for the project in less than a year as a viable program offering an alternative to the traditional high school has been made operational. True to CEB's funding proposal, the staff are applying the AEL model with reasonable and constantly improving fidelity.

Seventy-seven experience sites were established to serve the first semester's enrollees and an additional twenty-eight sites are scheduled for development during the summer of 1977. Project staff have all received training in the model and technical assistance from AEL. Services have been delivered to twenty-eight students and the projects' initial dissemination activity, a four-day workshop, has been accomplished. Through the use of standardized tests it has been demonstrated that there are no deleterious effects on student academic performance from participation in the CEB program. There were no ascertainable differences between the CEB students and students in the comparison groups in obtaining career education knowledge, attitudes, and skills which can clearly be attributed to participation in CEB. At this point in time, however, these results are not surprising. During its first semester of operation CEB did not offer elective credit in career education and it therefore was not emphasized for CEB students. It also is possible that the duration of time was not sufficient to permit measurable growth. When the project commences its second semester of serving students in September, 1977, career education credit will be available and it is anticipated that differences between groups will begin to appear.

Based on questionnaire and interview data, the project's efforts receive the endorsement of its enrollees with ten of the fourteen eligible 1977 participants reenrolling and four returning to traditional classrooms; parents of enrolled students, 94% of whom indicated that EBCE is a worthwhile program; and the community as represented by the project's advisory committee and the cooperating resource persons who accurately view their role as assisting students in obtaining a clearer picture of the work world and in making career decisions.

III. SPECIFIC EVALUATION QUESTIONS--RESULTS AND DISCUSSION

The three-year evaluation plan defines twelve specific evaluation questions which address the project's development and outcome obligations as defined in the CEB funding proposal and through the Federal Rules and Regulations under which the project operates. The available evidence relating to each of the twelve evaluation questions is presented and discussed below.

1. HOW DO PROJECT STRATEGIES AND PROCESS COMPARE TO THE STIPULATIONS OF THE FUNDING PROPOSAL?

In the funding proposal there are identified twenty-six specific functions which the project is obligated to fulfill. Those functions which are appropriate to the project's first year of operation all have been fulfilled by the project. A brief discussion of each of the twenty-six functions from the funding proposal follows.

1. Director hired and staff reviewed.	Upon receipt of funding notification in mid-September, 1976, the project director was hired and a review of staff needs commenced immediately. The project director also prepared the funding proposal so that there was no delay in implementing the initial steps of project organization.

2. Staff hired

The project's assistant director who also serves as a learning coordinator (LC) joined the staff almost simultaneously with the project director in September, 1977. On November 1, 1976, a second LC was hired, participated in the week-long AEL trainig session, and resigned on November 18, 1976. A replacement for this position was hired on December 1, 1976, and participated in the AEL-training session. During this same period a site coordinator (part time) and project secretary joined the staff. The project secretary also served as an LC of business courses which were offered by the program. In June, 1977, an additional LC position was filled bringing the project to its full staff complement.

The staffing pattern as the project enters its second operational year will be:

a. Project Director
b. Assistant Director and LC
c. Two Learning Coordinators
d. Site Coordinator (part time) and
e. Project Secretary

The project director, assistant director, and one of the LCs are well-qualified counselors and as required fulfill that role within the program.

3. Coordinate transportation

The project has leased a single school bus which is maintained by S.A.D. 51 for the transportation of EBCE students. However, almost half of the twenty-eight students enrolled during the project's first semester of serving students provided their own transportation to their sites. The use of a single vehicle for the transport of students does seem to engender an unnecessary degree of rigidity. It is suggested that the project staff may wish to consider obtaining the use of a second vehicle toward the end of obtaining the greatest possible flexibility for student transportation before the fall semester begins.

It is the project director's stated purpose to have students assume the primary responsibility for their transportation schedules. NED endorses this strategy for encouraging student independence and responsibility.

4. Organize office and order materials	The project office was fully operational by the time of NED's first site visit on October 8, 1976. Throughout the year there has been an on-going refurbishing and expanding of the project facilities. These activities are scheduled to continue during the summer of 1977 and it is anticipated that the project will start its second year with fully adequate facilities. Since the beginning, the project has maintained complete documentation of its activities. The filing system, however, was such that this documentation was not always as readily available as the project director desired. Therefore, in June, 1977, the project's filing system was completely revised and a cross-referencing system was established.
5. EBCE orientation to GHS faculty	Since November, 1976, the EBCE project director and staff have made formal and informal orientation/informational presentations to the Greely High School faculty members. A November workshop involved the GHS faculty in curriculum review and development. As late as February 7, 1977, the project director met with the GHS department heads for the purpose of clarifying EBCE purposes and procedures.
6. Staff training and development	All of the project staff for both the 1976-77 and 1977-78 years as well as three of the NED staff have participated in AEL-training sessions at either AEL's Charleston, West Virginia, headquarters or at the project's Cumberland Center site.
7. Site analysis	Site analysis is an on-going process. By April 25, 1977, the project had 52 sites developed and active which was a sufficient number to serve the EBCE students enrolled at the time. By June 30, 1977, there were 77 sites active and it is anticipated that 101 sites will be active by September 1, 1977.

8. Curriculum development and review	The project's curriculum development and review efforts are also discussed in response to evaluation question 2 later in this report. Suffice it at this point to record that a review of the AEL curriculum commenced on November 20, 1976. This Saturday session was led by an AEL staff member and involved the EBCE staff, a NED staffer, and representatives of the various GHS departments. Curriculum review, revision, and development have been and are anticipated to remain a continuing process. During the current year the project has developed and offered EBCE courses in physical education, art, typing and shorthand.
9. Purchase resource materials	Throughout the year the project has continually added to its supply of resource materials for use by the students and LCs. As required or desirable materials have been identified they have been purchased. It is anticipated, however, as discussed under evaluation question 2 that as the project moves toward a more individualized approach, that a greater diversity of available materials will be required. Also, because the EBCE students represent a variety of achievement levels, the project staff will find it desirable to seek a range of materials which treat similar topics and concepts at different levels of difficulty and reading.
10. Advisory Committee meeting	The funding proposal called for the Advisory Committee to be organized and the first of three sessions to be held in October, 1977. However, the funding proposal also assumed an August, 1976, start date. In reality the start date was fifty days later and it therefore was impossible to meet the October deadline. The Advisory Committee with a wide range representation was organized and the other two scheduled meetings were held in January and June of 1977, thereby fulfilling the project's obligations under this function. The composition of the Advisory Committee and the business of the two meetings are addressed more specifically in the project director's quarterly and interim reports.

11. EBCE Newsletter	In the funding proposal, the project indicated the intention to issue monthly newsletters October, 1976, through June, 1977. Since there is no lack of career education newsletters this function was revised by the project staff in two ways. First, newsletters will be developed and issued occasionally and only as warranted by events. Second, newsletters will be student products. One student-developed newsletter was produced and distributed in June, 1977. In NED's judgement using the newsletter to provide learning experiences for students and issuing project newsletters only when there are worthwhile statements to be made is a sane approach. That only one project-developed newsletter was issued during the year in no way should be constured as a lack of effort to publicize the project and its program. For example, the project director was interviewed for ten minutes on commercial television on August 13, 1977. The S.A.D. #51's Superintendent's Newsletter and local newspapers have carried articles detailing the EBCE philosophy and program. These efforts are documented in the project director's quarterly and interim reports.
12. High School faculty curriculum workshops	The funding proposal called for Greely High School faculty workshops to be held in the months of November, 1976, through March , 1977, involving a differnt instructional area each month. The first workshop was held on November 20, 1976, and involved all instructional areas negating the need for monthly meetings. Furthermore, the project director and LC's have continued throughout the year to obtain the advice and counsel of GHS staff members regarding curricular matters.
13. Student selection criteria finalized with high school faculty	Criteria for selecting students to participate in the EBCE program were established on schedule in November, 1976, and were utilized in selecting EBCE students for the 1977 and the 1977-78 programs. The criteria established for student selection into the program focus on: a. the student's ability to work without direct supervision; b. the student's attendance record; and c. the student's ability to benefit from an experience-based program.

13. (continued)

Recommendations concerning the students in relation to the three criteria are sought from GHS staff. The final admissions decision, however, is made by project staff after a review of all information available for each student. At this time, the GHS staff recommendations are considered along with all other information available to the EBCE staff which has been obtained through such as student and parent interviews.

14. EBCE Orientation for GHS Students
15. Student Registration

The orientation of GHS students to the EBCE Program was accomplished on schedule in December, 1976, as an initial step in the project's recruiting efforts. In addition, during May-June, 1977, the students at neighboring Yarmouth High School were provided an orientation to the EBCE Program.

As a result of these efforts twenty-eight GHS students were recruited to participate in the project's first semester. To date, ten of the twenty-eight students who participated in the EBCE's first semester program also elected to participate in the 1977-78 program. Seventeen other GHS and two YHS students have registered for the 1977-78 program so the project will start its second semester of serving students with an enrollment of twenty-nine.

The initial enrollment for 1977-78 is somewhat less than was planned in the funding proposal. As discussed in the project director's third quarter report, the original estimate was 10% of the 9-12 GHS enrollment whereas it should have been based on 10% of the 11-12 enrollment. The EBCE 1977-78 enrollment does represent approximately 10% of the 11-12 grade enrollments for GHS.

16. EBCE staff inservice for sex-fair guidance

The project director scheduled a January inservice session for his staff but inclement weather forced cancellation of that session and repeated attempts to reschedule this session were not successful. The project director, however, does plan to work with the newly appointed director of women's rights in the State Department and is currently in the process of negotiating to conduct a joint workshop with the state for the EBCE staff and educators from the Cumberland area.

16. (continued)

It should be noted, however, that the intent of this function is ultimately to provide the EBCE students with experiences which are free from sex stereotyping and sex bias. Documentation that the EBCE staff are providing such experiences is found in the fact that fourteen (11%) of the 126 student placements which were made during the first semester of operation put students into non-traditional placements which are summarized in Table I below:

TABLE I
EBCE Non-Traditional Placements
February 1977-June 1977

SEX	SITE	JOB TITLE	DURATION	
Male	Cumberland Elementary School PE Department	Early elementary PE teacher	3/31/77	4/1/77
Female	Goodall Nursery	Grounds person	5/16/77	5/20/77
Female	Maine Audubon Society	Grounds maintenance	5/ 9/77	5/13/77
Female	Maine Audubon Society	Grounds maintenance	5/16/77	5/20/77
Female	Oakhurst Dairy	Chemist	5/31/77	6/10/77
Female	Oakhurst Dairy	Truck driver	5/26/77	6/10/77
Female	Portland Pottery and Supply	Stock person	2/ 7/77	3/ 4/77
Female	Portland Pottery and Supply	Stock person	3/21/77	4/ 8/77
Female	Ron's Getty	Service station attendant	2/ 7/77	2/11/77
Female	Ron's Getty	Service station attendant	5/16/77	5/20/77
Female	WCSH-TV	Anchor person/reporter	2/ 7/77	2/18/77
Female	WCSH-TV	Anchor person/reporter	4/25/77	5/20/77
Female	WCSH-TV	Anchor person/reporter	5/23/77	6/10/77
Female	WCSH-TV	Studio engineer	2/ 7/77	2/18/77

It is NED's understanding that as the project develops additional sites, every effort will be made to increase both the number and the proportion of placements for students, male and female, in non-traditional occupations.

17. EBCE students begin program

In spite of the delayed start date noted above, the project was on schedule with the delivery of services to students. During the week of January 31, 1977, twenty-eight students participated in the EBCE week-long orientation and on February 7 students reported for their first site assignments.

18. Technical assistance from AEL

During September, 1976, two NED staff members worked with Joe Shively and Karen Pfiffner at the AEL site so that planning for the program evaluation could commence without delay. The project director also visited the AEL site in September for the purpose of defining the services AEL was to provide to the project.

In October, 1976, Ms. Pfiffner worked with the staff at the project site so that site analyses could begin.

During November, 1976, three project staff members and two NED staff participated in a week-long training session at the AEL site. Also in November, Ms. Pfiffner came to Maine to assist the project staff with the initial orientation session for the GHS faculty.

In December, 1977, another project staff member participated in the week-long training session at the AEL site.

AEL representative, Chris Lewis, provided technical assistance to the project for the student orientation during the week of January 31, 1977.

In March, 1977, Ms. Pfiffner again returned to Cumberland to aid the project staff in a review of the extent to which the project was maintaining the fidelity of the AEL EBCE model.

Ms. Pfiffner returned to the project site once again during the week of June 27 to assist the project staff during the four-day dissemination workshop.

Finally, the project director, assistant director, and LCs, participated in a Kansas City meeting of all EBCE Programs utilizing the AEL models and sponsored by AEL.

19. Interim reports	An interim report is scheduled for February of each year. This report was replaced by the project quarterly reports. All quarterly reports were issued and are summarized in the project director's year-end report.
20. Slide tape inservice orientation	Up to this point in time, the project has utilized the AEL-prepared slide tape presentation which provides an overview of the AEL-EBCE philosophy and program. While the AEL-prepared presentation is a good one, the project staff feels that a presentation which focuses specifically on EBCE in Cumberland would have impact for its basically non-urban service area. In the funding proposal such a presentation was scheduled to be developed during July and August, 1977. In July, 1977, the script for such a presentation was being developed. NED believes there is merit to a locally-developed presentation but reminds the project to consult the rules and regulations governing the project relative to developing audio-visual materials.
21. Planning for summer workshops	Under the stipulations of the funding rules and regulations the project is not obligated to become involved in dissemination activities until its third year of funding. Nevertheless, in its funding proposal the project did obligate itself to start dissemination activities with an August, 1977, workshop. This workshop was planned and offered ahead of schedule during the week of June 27. A NED staff member attended this workshop as a participant and found it to be a high-quality experience which is substantiated by the summary of the feedback forms presented under evaluation question 12. Nine individuals participated in the first day sessions which were intended to provide a general overview of EBCE. The total participation in the four-day workshop was less than anticipated. As late as the Thursday prior to the workshop 15 individuals had indicated their intention to participate.

22. Student Evaluation	NED developed and the project director reviewed and approved a three-year evaluation plan for the project which includes questions focused on student evaluation in several of its components and which are discussed in detail in subsequent sections of this report.
23. Final Report	The first-year report is not scheduled to be released until September, 1977.
24. Program Evaluation	See comments under 22 above. Evaluation activities are on schedule and this report will be available for the project staff to work with during August, September, and October as called for in the funding proposal.
25. Visits to EBCE sites	All EBCE sites at which students are placed are visited weekly by either an LC or the site coordinator as stipulated in the funding proposal. The purposes of these visits are to monitor student progress and the experiences being provided by the site as well as to maintain open communication between the project and the site personnel.
26. Technical assistance to summer workshop participants	The June workshop represented the first step in the project's formal outreach effort although the project has hosted visitors since January, 1977. Technical assistance from the project staff to summer workshop participants and visits to fledgling EBCE sites in Maine represent the second and third steps in the project's outreach program. The funding proposal, however, does not call for either of these functions to commence prior to August, 1977.

2. WHICH ACADEMIC AND CAREER CONCEPTS ARE LEARNED THROUGH SITE EXPERIENCES AND WHICH REQUIRE HEAVY RELIANCE ON MORE TRADITIONAL LEARNING METHODS?

A NED staff member reviewed the Student Activity Sheets (SAS) for a randomly selected 50% sample of the CEB students. The SAS review and discussions with LCs indicated that the student assignments were not interdisciplinary in nature, were only minimally individualized, and generally did not utilize the site placements directly as a part of formal instruction although they did appear to meet AEL requirements on these dimensions.

In an attempt to establish a base of acceptance for the EBCE program by the GHS faculty, the project elected to follow the GHS curriculum and instructional program by offering EBCE students the same course titles as are available at the high school. During the current year elective career education credits were not available at the high school and so they were not available to EBCE students. Because of the uniqueness of the EBCE model, this now is recognized as a less than desirable approach and commencing in September the EBCE program will offer career education credits and will adopt the AEL interdisciplinary approach more fully utilizing the site experiences as an integral part of the student's total learning experience.

Operationally, what has occurred during the project's first semester has been to provide students with traditional GHS course titles through the application of the inquiry method and utilizing a variety of resources coordinated by the LC. It is anticipated, however, as the project moves toward an approach more closely resembling the AEL model, the SASs will become interdisciplinary and assignments will utilize the site experiences to teach academic and career concepts.

7. WHAT TYPE OF STUDENT IS ATTRACTED TO EBCE?

(This evaluation question is presented out of sequence)

This area of investigation was planned to serve dual purposes: (1) to draw a profile of this year's EBCE class and (2) to test several hypotheses concerning factors which distinguish EBCE applicants from non-applicants. Definitive answers to this evaluation question would provide insight into the program's image as seen by the GHS student body and therefore would have implications for recruitment strategies. Also, we hoped to better define the traits of students who feel a need for an alternative high school curriculum such as EBCE. Although it is generally agreed that EBCE is not for <u>all</u> students, NED is aware of no satisfactory explanation of who it is and is not for, with the exception of AEL's observation that EBCE attracts few social leaders (class presidents, cheerleaders, etc.)--an observation that was not valid for CEB.

Since no selection among applicants was necessary this year, the data below constitutes a profile of GHS students attracted to the program as well as of the 28-member EBCE class:

	Number	Percent
Sex:		
female	18	64%
male	10	36%
Race:		
white	28	100%
Grade level:		
9th	2	7%
10th	1	4%
11th	12	43%
12th	13	46%

Note: The 9th and 10th graders were grade level repeaters.

	Number	Percent
Age (as of 1/31/77):		
16	8	29%
17	12	43%
18	8	29%

Academic Achievement Level (expressed as grade equivalent scores on the CTBS pre-test administered in early February and discussed under evaluation question 3).

	Range	Mean
Total Reading	5.5 - 13.6	12.3
Total Language	3.8 - 13.6	11.6
Total Math	6.0 - 13.6	10.8

Notes: 13.6 is the ceiling grade equivalent on the CTBS. The students' mean grade level on the test date was 11.8.

Reasons for applying to the program (by student report on a questionnaire administered in June and discussed under evaluation question 8).

	Number	Percent
I wanted to learn more about careers.	15	68%
I wanted to see what it was like in the world of work.	13	59%
I wanted to get away from the regular high school program.	11	50%
I thought it would be easier than the regular program.	5	23%
I didn't like the competitiveness of the regular program.	3	14%
Otner	3	14%

--I wanted to find out more about my interests.

--I wanted the experience of meeting more and different people.

--I had taken most of the courses at Greely and there was nothing left for me but courses I didn't really want.

One of the two comparison groups involved in student impact evaluation was drawn from GHS students who did not apply for the program. Each student in this group (CG) was chosen to match an EBCE student (CEB) in terms of grade level, sex, and approximate grade point average and course enrollment history. Several hypotheses were tested concerning the factors distinguishing CEB from CG in spite of the two groups' similarities on these dimensions. A questionnaire administered to all 28 students in both groups at the time of pre-testing in February, provided most of the data for this purpose.

The first hypothesis was that EBCE applicants would be less certain of their career plans than others:

	CEB	CG
Do you know what you will be doing a year from now?		
Yes. I have firm plans	6	8
I have an idea of what I'll be doing but it's not certain	15	16
No	7	3
No answer	0	1
Do you know what kind of work you want to be doing in ten years from now?		
Yes. I know exactly what I want to do	7	6
I have several things in mind but I haven't decided for sure	17	13
There are some things I know I DON'T want to do, but		
I haven't decided what I DO want to do	1	6
No. I have no idea	3	3
What grade were you in when you made your present career plans?		
Since I don't have any plans for the future I can't say	5	6
Median answer of those students who did not choose the response above.	8.75	10.29
About how many times in the last three years have you changed your mind about what you want to do in your adult years?		
none	5	9
once or twice	15	14
three or four times	8	3
more than four times	0	1
no answer	0	1

Chi-square analyses of the multiple-choice questions above confirmed the apparent similarity of the two groups' response patterns.* However, a median test of the grade level at which present career plans were made indicates that CEB students tended to be significantly younger than CG students and therefore had maintained their career interest for a longer period of time. (X^2 (1) = 3.94, $p < .05$, 2-tailed). Therefore, the hypothesis that EBCE applicants would be less certain of their career plans than a non-applicant group of the same sex, grade level, and academic history was not substantiated and there is some evidence that the opposite may be true.

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*Non-respondents were excluded from these analyses. The last two categories of the last question were combined. The second question could not meet the chi-square's lower limit on expected frequencies and was not analyzed.

Because half of the EBCE students indicated a desire to get away from the regular high school program as one reason for their application to EBCE, another hypothesis was that EBCE applicants' general affect for school is lower than comparison students'. However, no significant differences were found between CEB and CG on the pre-test of the Attitudes Toward School scale of the Career Orientation Battery discussed under evaluation question 4. On the other hand, the scale is designed to measure perceived relevance of school learning more than feelings about being in school, so the several items of the latter type were investigated for between-group differences (School work is more trouble than it's worth; Most of my courses in school are fairly interesting; I want to drop out of school.) Chi-square analyses of these agree-disagree items revealed no significant differences in CEB and CG's response patterns.

Extracurricular activities also were investigated to determine whether EBCE applicants are less inclined to participate. Students were asked to list their 1975-76 extracurricular activities; the median number was 1.00 for both CEB and CG. The median numbers of 1976-77 activities were also remarkably similar for CEB and CG (1.0 and 1.2, respectively.) It is interesting that in spite of AEL's observations of the types of students who choose to enroll in EBCE, the junior class president of GHS was among this year's enrollees.

The final hypothesis was that EBCE applicants would have more work experience than their colleagues. This hypothesis was supported; the median number of jobs CEB students have held since entering high school is 1.88, vs. CG's .93. A median text confirmed the statistical significance of the difference (X^2 (1) = 8.55, $p < .01$, 2-tailed), leading us to speculate that EBCE applicants tend to be more experienced with the work world, to feel more comfortable in it, and to be more employment-oriented than non-applicants who are otherwise similar to them.

On the basis of the first year's experiences, it also is hypothesized that CEB students feel they have greater internal control over their lives (locus of control), are more comfortable with and better able to deal with adult independence, and are more apt to take risks than their counterparts in the comparison groups. NED shortly will suggest several modifications to the three-year evaluation plan which will provide for testing these hypotheses.

In conclusion, the EBCE group was composed mostly of juniors and seniors representing a broad range of academic achievement but with slightly above-average reading skills and below-average mathematical skills. The only factor which clearly distinguishes them from non-applicants is a relatively extensive employment history.

3. HOW DOES THE ACADEMIC ACHIEVEMENT OF EBCE STUDENTS COMPARE WITH THAT OF STUDENTS IN MORE TRADITIONAL HIGH SCHOOL PROGRAM?

The research hypothesis was that students' academic achievement at the termination of the EBCE program would be equivalent to that of students in comparison groups. NED is well aware that no research design can substantiate an inference of no differences, but an absence of measurable differences was accepted as the best possible evidence that the groups' achievement is equivalent.

The evaluation groups were as follows:

CEB--All 28 enrollees in the EBCE program. As indicated earlier, these students span grades 9 to 12.

CG--28 Greely High School students, each matched to an EB student by the Guidance Director in terms of grade level, sex, and approximate GPA and course enrollment history.

CY--28 Yarmouth High School students, chosen in the same manner as the CG group.

The rationale for including a second comparison group from Yarmouth High School in the evaluation design were 1) to control for the school-based career education expected to take place at GHS by including YHS students who do not receive this exposure and 2) to control for the factors entering into the decision to apply to the EBCE program by drawing CY from YHS students who "volunteer" for EBCE in a simulated recruitment situation. However, neither of these rationale turned out to be relevant, as the career education activity for the CG was minimal and plans for a simulated recruitment campaign at YHS were never carried out because it was felt that such a campaign would be unfair to the YHS students.

In accordance with the precedent set by NIE's EBCE evaluation model, the Comprehensive Test of Basic Skills (CTBS), Level 4, Form 5, was used to measure academic skills achievement. Seven of the CTBS scales were administered during the period of mid- to late February and again during the last week of May and first week of June. The testing situations were not constant across students and administration dates; due to logistical problems, the size of testing groups, the test administrator, the setting, and the time allowed for completion all varied somewhat. In order to compensate partially for these extraneous factors, and because the CTBS is not intended as a timed test, students were eliminated from the analyses of any scale on which more than 10 percent of the items were left blank.

The number of students who were tested on both occasions was less than the total number in each of the groups: CEB-27; CG-21; CY-24. The N's associated with the analyses of each scale are smaller than these in some cases, as both pre- and post-test scores were needed for a student to be included in any of the analyses applied to the scale.

The analysis of covariance model was used to test post-test differences among the three groups while accounting for random pre-test differences. Since the analysis of covariance assumes that the three evaluation groups were drawn from the same pre-treatment populations, between-group differences on the pre-test were tested via the one-way analysis of variance. No significant differences were found on any of the seven scales (alpha = .1), indicating that both comparison groups were adequately similar to EBCE students on the dimensions tapped by the CTBS, even after some students were eliminated from analyses due to missing scores.

Pre- and post-test results are summarized in Table II and complete analysis of covariance tables appear in Table III. On the math computations scale the program effect achieved the .1 significance level, indicating a greater-than-random group differences on the post-test in spite of the groups' equivalence on the pre-test. The largest adjusted post-test mean was that of the EBCE students. Therefore, Dunnett's multiple comparison test was applied to determine which of the comparison groups were out-performed by CEB. A difference between adjusted post-test means of at least 3.17 was required to demonstrate CEB's superiority over CG in a two-tailed test at the .1 probability level; the actual difference was 3.41, confirming that CEB's measured math computation skills were significantly greater than CG's at the close of the school year. The difference of 3.05 between CEB's and CY's adjusted means required to demonstrate significant difference between these two groups was not achieved. It should be noted that the CEB-CG difference was not so much the result of dramatic improvements in the CEB group as of a decline in the CG group's scores.

Table II: Summary of CTBS Results

(Raw Scores)

Scale	Group	N	Means: Pre-test	Means: Post test	Means: Raw Gain	Means: Adjusted Post	Standard Deviations: Pre	Standard Deviations: Post	Significance Level of F
Reading Vocabulary (40 items)	EB	27	28.48	28.67	.19	29.52	8.51	7.69	NS
	CG	21	29.67	29.43	.24	29.26	8.43	8.20	
	CY	23	30.44	31.61	1.17	30.78	6.35	7.36	
Reading Comprehension (45 items)	EB	27	32.63	32.52	- .11	33.38	7.33	8.95	NS
	CG	18	33.33	33.06	- .27	33.27	6.70	8.63	
	CY	23	34.87	33.74	- 1.13	32.55	5.97	5.92	
Spelling (30 items)	EB	25	22.48	22.00	- .48	21.61	6.20	6.38	NS
	CG	21	20.86	21.67	.81	22.52	6.52	5.30	
	CY	23	22.44	22.70	.26	22.34	4.03	4.92	
Language Mechanics (20 items)	EB	25	14.64	15.56	.92	15.71	3.70	3.75	NS
	CG	21	14.71	15.48	.77	15.57	3.20	3.30	
	CY	24	15.21	16.33	1.12	16.09	2.60	2.12	
Language Expression (35 items)	EB	25	23.64	23.60	- .04	24.07	5.82	6.98	NS
	CG	21	23.10	22.95	- .15	23.85	6.06	6.61	
	CY	24	25.54	25.04	- .50	23.68	4.41	5.17	
Math Computations (48 items)	EB	25	33.28	34.32	1.04	36.41	9.47	10.12	.10
	CG	20	36.15	33.45	- 2.70	33.01	8.55	9.97	
	CY	23	37.78	37.70	- .08	35.82	6.39	6.49	
Math Concepts and Applications (50 items)	EB	25	31.88	30.44	- 1.44	32.05	10.01	11.58	NS
	CG	19	32.21	31.47	- .74	30.61	10.71	12.15	
	CY	22	36.68	35.91	- .77	33.52	8.53	8.80	

Table III: CTBS Analysis of Covariance Summary

Scale	Source of Variance	df	MS	F	P
Reading Vocabulary	Pre-test	1	3208.32	223.64	.001
	Program	2	14.90	1.04	NS
	Error	67	14.35		
	Total	70	59.99		
Reading Comprehension	Pre-test	1	2486.50	108.20	.001
	Program	2	4.72	.21	NS
	Error	64	22.98		
	Total	67	59.20		
Spelling	Pre-test	1	1257.50	102.75	.001
	Program	2	5.39	.44	NS
	Error	65	12.24		
	Total	68	30.35		
Language Mechanics	Pre-test	1	338.42	68.21	.001
	Program	2	1.65	.33	NS
	Error	66	4.96		
	Total	69	9.70		
Language Expression	Pre-test	1	1871.03	147.12	.001
	Program	2	.97	.08	NS
	Error	66	12.72		
	Total	69	39.31		
Math Computations	Pre-test	1	3497.20	119.21	.001
	Program	2	70.21	2.39	.10
	Error	64	29.34		
	Total	67	82.32		
Math Concepts and Applications	Pre-test	1	5873.39	174.17	.001
	Program	2	19.45	.58	NS
	Error	62	33.72		
	Total	65	123.12		

The results of the other six scales provide no reason to reject the hypothesis that EBCE and traditional high school programs are equally effective in developing or maintaining students' basic skills.

4. HOW DO EBCE STUDENTS COMPARE WITH OTHERS ON THE ATTAINMENT OF CAREER EDUCATION KNOWLEDGE, ATTITUDES, AND SKILLS?

It was hypothesized that EBCE would positively impact students with respect to career education objectives. Two career education tests with a total of 13 scales were employed; the Career Orientation Battery (COB) was used in the same pre-post with comparison group design as the CTBS and the Career Maturity Inventory (CMI) was administered only to EBCE students on a pre-post without comparison group basis.

NED began the development of the Career Orientation Battery in 1974 and found it sensitive to career education instruction when used in the evaluation of three school-based career education projects, including Project GIVE in Cumberland Center. COB Form 912 was revised in the fall of 1976 to conform with the objectives of EBCE and the CEB staff approved it as consistent with the thrust of their efforts. The COB consists entirely of multiple-choice questions and contains eight scales which are described in terms of the attributes they measure in Table IV. The eighth scale, Job-Seeking Skills, was not included on the pre-test but was administered to all three groups on the post-test.

The three evaluation groups (CEB, CG, and CY) and test administration were the same as for the CTBS and are described under question 3. Also, scores on a scale were coded as missing if more than 10 percent of the scale's items were omitted and students were eliminated from all analyses of any scale for which either the pre- or post-score was missing. The number of students who were administered the COB on both occasions were: CEB-26; CG-20; CY-23.

The one-way analysis of variance was applied to pre-test scores on the seven scales included on the COB pre-test. On the Attitudes toward School scale significant differences were found, F (2.66) = 5.72, $p < .005$. Dunnett's two-tailed test of multiple comparisons revealed that CY scored significantly higher than CEB at the .05 probability level, but that the small difference in the mean scores of CEB and CG was not significant. Therefore, CY was eliminated from the analysis of covariance applied to that scale. No significant differences were found among the three groups' pre-test means on the other scales (alpha = .1).

Analysis of covariance results indicated no significant differences among groups on any of the first seven COB scales (alpha = .1). Results of the Job-Seeking scale, for which there were no pre-test scores, were analyzed with the one-way analysis of variance and again, differences among the three groups were found insignificant.

The COB scores of the EBCE students were also subjected to one-tailed t-tests for correlated samples as a secondary analysis whose main purpose was to test the COB's sensitivity to instruction with respect to the CMI's. Two of the seven t's were significant at the .05 level (Career Planning and Specific Occupational Information), indicating that EBCE students' skills in these two areas improved during the course of their EBCE experience. Nonetheless, this improvement cannot be attributed to the EBCE program in light of the analysis of covariance results.

The competence test of the Career Maturity Inventory published by CTB/McGraw Hill was also used in conjunction with this evaluation question because of its wide acceptance, as witnessed by its application to NIE/EBCE model programs. However, the 2½ hours required for administration of the CMI made it unfeasible to test the comparison groups. All EBCE students completed all sections of the CMI on the pre-test but at the year's end only 17 of the 28 EBCE students took the post-test. The pre- and post-tests of these students were checked for missing scores (defined as before as more than 10 percent non-responses), but there were none.

In NED's judgement, the dimensions measured by the CMI competence test scales are as follows:

Part 1. Self Appraisal--The ability to draw conclusions about an individual and/or his/her appropriate career direction based upon behavioral information about the person.

Part 2. Occupational Information--The ability to identify an individual's job title on the basis of a scenario of a segment of his/her work day.

Part 3. Goal Selection--The ability to choose among several alternatives the occupation most appropriate for an individual whose interests and abilities are given.

Part 4. Planning--Knowledge of the sequence of the steps involved in preparing for various occupations.

Part 5. Problem Solving--The ability to identify appropriate means of overcoming career path obstacles.

As shown in Table VI, one-tailed t-tests for correlated samples revealed no significant growth on any of the CMI scales during EBCE enrollment.

In conclusion, there is no compelling evidence that the EBCE program affected any of 13 dimensions of career education knowledge, skills, and attitudes assessed. These results may reflect the lack of emphasis on career education instruction in this year's CEB program and also demonstrate that contact with the work world in itself does not result in the achievement of career education objectives. It is also possible that the time span between test administrations was insufficient for measurable growth to occur.

5. WHAT IS THE EFFECT OF EBCE UPON LONG-TERM RETENTION OF ACADEMIC LEARNING?

It is hypothesized that more academic course content is retained on a long-term basis by EBCE students than by students who learn in the traditional classroom setting. This question, however, will be viewed only once during the program's funded life in order to provide enough of a time lapse to occur to justify the assessment of "long-term" retention.

6. WHAT BECOMES OF EBCE STUDENTS AFTER THEY LEAVE THE PROGRAM?

Data collection for this question will not begin until late fall, 1977.

Table IV: Summary of COB Results
(Raw Scores)

Scale	Group	N	Means: Pre-test	Means: Post test	Means: Raw Gain	Means: Adjusted Post	Standard Deviations: Pre	Standard Deviations: Post	Significance Levels: F	Significance Levels: t
Career Planning:										
Students will recognize the importance of career planning, view career planning as a life-long process, and be able to identify the relative importance which should be placed on various factors in making career decisions. (21 items)	EB	26	13.42	15.19	1.77	15.28	4.67	2.81	NS	.04
	CG	20	13.75	15.10	1.35	15.11	2.40	3.27		
	CY	23	14.17	15.17	1.00	15.07	2.59	2.19		
Work Behavior:										
Students will be able to identify appropriate responses to situations faced in work settings that require skills in interpersonal relations. (11 items)	EB	26	6.69	6.69	.00	6.80	2.31	2.24	NS	NS
	CG	20	7.65	6.95	- .70	6.89	1.27	1.64		
	CY	23	7.61	7.65	.04	7.59	1.62	1.03		
Attitudes toward School:										
Students will possess positive attitudes about school and school achievement and will view school learning experiences as relevant to adult life. (12 items)	EB	26	8.04	8.65	.61	8.81	3.18	3.29	NS	NS
	CG	20	8.80	8.90	.10	8.69	2.21	2.34		
	CY	23	10.39				1.56			

Table IV: Summary of COB Results (cont.)

(Raw Scores)

Scale	Group	N	Means: Pre-test	Means: Post test	Means: Raw Gain	Means: Adjusted Post	Standard Deviations: Pre	Standard Deviations: Post	Significance Levels: F	Significance Levels: t
General Occupational Information:										
Students will possess basic knowledge about employment, such as employment related laws and the reasons for various methods and amounts of payment. (21 items)	EB	26	14.04	14.85	.81	14.94	4.56	2.89	NS	NS
	CG	20	15.35	14.90	- .45	14.78	2.39	2.83		
	CY	23	14.56	14.35	- .21	14.36	2.57	2.46		
Attitudes toward Work:										
Students will desire to work and will possess attitudes which are likely to facilitate adjustment to and success in employment settings. (18 items)	EB	26	12.54	13.50	.96	13.66	4.07	1.82	NS	NS
	CG	20	14.00	14.20	.20	14.12	2.43	2.67		
	CY	23	14.22	14.30	.08	14.19	1.59	2.16		
Specific Occupational Information:										
Students will be aware of a variety of occupations in terms of workers' training requirements, pay, personality factors, interests, and abilities. (50 items)	EB	25	33.32	38.36	5.04	38.76	10.93	5.54	NS	.02
	CG	20	37.10	36.75	- .35	36.31	4.48	5.37		
	CY	23	35.30	36.91	1.61	36.87	3.75	3.40		

Table IV : Summary of COB Results (cont.)

(Raw Scores)

Scale	Group	N	Means: Pre-test	Means: Post test	Means: Raw Gain	Means: Adjusted Post	Standard Deviations: Pre	Standard Deviations: Post	Significance Levels: F	Significance Levels: t
Sex Equity: Students will regard gender as irrelevant in matters pertaining to career planning, preparation, and employment. (16 items)	EB	26	11.38	12.23	.85	12.31	4.18	3.05	NS	NS
	CG	20	12.05	12.55	.50	12.29	3.35	2.86		
	CY	23	11.26	11.96	.70	12.09	2.96	2.27		
Job Seeking : Students will be knowledgeable about job application procedures and appropriate interview behavior. (18 items)	EB	26		12.09				2.13	NS	
	CG	20		11.53				1.95		
	CY	21		11.95				2.75		

Table V: COB

Analysis of Covariance and t-test Summary

Scale	Source of Variance	df	MS	F	p	t*	df	p
Career Planning	Pre-test	1	48.77	6.92	.01	1.85	25	.04
	Program	2	.30	.04	NS			
	Error	65	7.04					
	Total	68	7.46					
Work Behavior	Pre-test	1	10.33	3.49	.07	.00	25	NS
	Program	2	4.34	1.47	NS			
	Error	65	2.96					
	Total	68	3.11					
Attitudes toward School (CY excluded)	Pre-test	1	82.00	12.07	.001	.88	25	NS
	Program	1	.17	.03	NS			
	Error	43	6.80					
	Total	45	8.32					
General Occupational Information	Pre-test	1	19.86	2.72	NS	.75	25	NS
	Program	2	2.17	.30	NS			
	Error	65	7.30					
	Total	68	7.33					
Attitudes toward Work	Pre-test	1	20.87	4.44	.04	1.07	25	NS
	Program	2	1.92	.41	NS			
	Error	65	4.70					
	Total	68	4.85					
Specific Occupational Information	Pre-test	1	136.88	6.53	.01	2.24	24	.02
	Program	2	36.51	1.74	NS			
	Error	64	20.98					
	Total	67	23.17					

Table V : COB (cont.)

Analysis of Covariance and t-test Summary

Scale	Source of Variance	df	MS	F	p	t*	df	P
Sex Equity	Pre-test	1	218.17	49.68	.001	1.21	25	NS
	Program	3	.32	.07	NS			
	Error	65	4.39					
	Total	68	7.42					
Job-Seeking Skills	Program	2	1.73	.33	NS	(No pre-test was administered)		
	Error	60	5.33					
	Total	62	5.21					

*One-tailed t for correlated samples, applied to EB group only. Alpha = .05.

Table VI : Summary of CMI t-test Results

(Raw Scores)

Scale	N	Means			Standard Deviations		t*	df	F
		Pre-test	Post test	Raw Gain	Pre-test	Post test			
Part 1. Self Appraisal (20 items)	17	14.65	14.94	.29	2.60	3.21	.36	16	NS
Part 2. Occupational Information (20 items)	17	17.65	18.12	.47	2.15	2.47	1.33	16	NS
Part 3. Goal Selection (20 items)	17	14.76	15.71	.95	2.46	3.85	1.17	16	NS
Part 4. Planning (20 items)	17	15.18	15.24	.06	3.28	4.56	.05	16	NS
Part 5. Problem Solving (20 items)	17	12.18	12.71	.53	2.60	2.78	1.11	16	NS

*One-tailed t for correlated samples. EB group only. Alpha = .05.

8. HOW DO EBCE STUDENTS VIEW THE PROGRAM?

EBCE students were asked to assess the program at the end of the semester by responding to a NED-developed Student Opinionnaire. Twenty-two of the opinionnaires were completed and returned for a return rate of 79%. Following as Table VII is a synopsis of the student's assessment of the EBCE program.

TABLE VII

Student Responses to Questionnaire Item
as Percents of those Responding
(N=22)

1. I choose to go into EBCE because:

68.2% I wanted to learn more about careers.
50.0% I wanted to get away from the regular high school program.
22.7% I thought it would be easier than the regular program.
13.6% I didn't like the competitiveness of the high school program.
59.1% I wanted to see what it was like in the world of work.
13.6% Other:
--I wanted to find out more about my interests.
--I wanted the experience of meeting more and different people
--I had taken most of the courses at Greely and there was nothing left for me to take but courses I didn't really want.

2. I think EBCE should be offered in every high school program throughout the United States.
81.8% Yes 4.5% No 13.6% Undecided

3. I would recommend EBCE to my friends.
72.7% Yes 13.6% No 13.6% Undecided

4. I learned a lot of useful things in EBCE that I could not have learned in my regular Greely High School classes.
100.0% Yes -- No -- Undecided

5. If I had to do it over again, I would participate in the EBCE program.
50.0% Yes 13.6% No 18.2% Undecided 18.2% I am going to

6. I have learned more about myself through the EBCE program than I would have in the regular program.
95.4% Yes -- No 4.5% Undecided

7. I feel as though I made better decisions after participating in the EBCE program.
95.4% Yes -- No 4.5% No answer

8. On the whole, the people at the sites usually treated me:

9.1% as a guest or tourist
86.4% as a co-worker
4.5% as a child
-- mostly they ignored me

9. I considered myself a student at Greely High School during my participation in the EBCE program.
   50.0% Yes 40.9% No 9.1% Undecided

10. I learned as much in my academic subjects in the EBCE program as I would have in the regular program.
   77.3% Yes 13.6% No 9.1% Undecided

11. I feel the amount of academic work I did in the EBCE program as compared to the amount I would have done at Greely High School was:
   31.8% about the same 50.0% more 18.2% less

12. I feel the difficulty of the academic work I did in the EBCE program as compared to the difficulty of the academic work I did in the first semester at Greely High School was:
   59.1% about the same 18.2% more difficult 22.7% less difficult

13. What did you miss most from the Greely High School program by participating in EBCE?
   9.1% classes
   77.2% friends
   4.5% after school activities
   9.1% teachers
   13.6% nothing
   4.5% other:
   --regular classroom work--review of my homework

*14. I think EBCE is a good program for:
   31.8% all students
   50.0% seniors
   50.0% juniors
   -- sophomores
   -- freshman
   -- no one

15. I think EBCE is good for:
   4.5% good students
   9.1% average students
   -- poor students
   86.4% all students
   -- no one

*Multiple responses allowed.

A review of the student responses presented in Table VII reveals that the students who participated in S.A.D. 51's EBCE program in general considered it a very positive experience as more than 68% of them indicated that they either would or did elect to participate in the program again. Almost 82% of them responded that EBCE should be offered in every high school in the country and almost 73% of them stated that they would recommend the program to their friends.

EVERY EBCE STUDENT responding to the questionnaire indicated that, "I LEARNED A LOT OF USEFUL THINGS IN EBCE THAT I COULD NOT HAVE LEARNED IN MY REGULAR GREELY HIGH SCHOOL CLASSES." In addition, students responded that they made better decisions as a result of the program (95%) and learned more about themselves than they would have in the regular program (95%).

From the students' viewpoint EBCE provided unique non-academic experiences while at the same time being academically demanding. More than 77% of the responding students felt that the difficult level of the academic work was equal to or greater than what would have been required at Greely High School and that they learned as much in their academic subjects as they would have in the regular program. Almost 82% indicated that the amount of academic work done was about the same (31.8%) or more (50%) than they would have done at Greely High School.

9. HOW DO EBCE STUDENTS' PARENTS VIEW THE PROGRAM?

Those parents who responded to the questionnaire, as can be noted from an inspection of Table VIII were overwhelmingly positive toward the EBCE experience and its impact on their sons and daughters. For example, more than 88% of the responding parents noted positive changes in their children which might have been a result of the EBCE program and more than 94% felt that it was a worthwhile program with less than 6% undecided.

Although more than 77% (See Table VII) of the students indicated they learned as much in their academic subjects as they would have learned in the regular program, only 58.8% of the responding parents held this opinion. Nevertheless, as already noted, when taken in toto parents are apparently giving the EBCE program overwhelming endorsement as more than 88% of them indicate that they would either want their son or daughter to participate in EBCE again or that their son or daughter has already enrolled for a second EBCE experience.

This question was addressed by NED in early June through a mail questionnaire distributed to the parents of the twenty-eight EBCE students. Seventeen completed questionnaires were returned for a 57% return rate and the results are reported below as Table VIII.

TABLE VIII

Parent Responses to Questionnaire Items
as Percents of those Responding

(N=17)

1. Have you received enough information about the nature of your son's/daughter's EBCE program?
   82.3% Yes 11.8% No 5.9% Undecided

2. Do you feel you got enough information about your son's/daughter's progress in the EBCE program?
   82.3% Yes 17.6% No -- Undecided

3. Do you feel that EBCE is a worthwhile program?
   94.1% Yes -- No 5.9% Undecided

4. Do you think your son's/daughter's attitude toward school has changed as a result of the EBCE program?
   64.7% Yes 23.5% No 11.8% Undecided

5. Has the EBCE program helped your son/daughter to form career plans?
   64.7% Yes 5.9% No 29.4% Undecided

6. Do you think your son/daughter learned a great deal about the work world in the EBCE program?
   82.3% Yes 11.8% No 5.9% Undecided

7. Would you say your son/daughter has learned as much academically in the EBCE program as he/she would have learned in a regular high school program?
   58.8% Yes 23.5% No 17.6% Undecided

8. Have you noticed positive changes in your son/daughter that might be a result of the EBCE program?
   88.2% Yes 11.8% No

9. Have you noticed negative changes in your son/daughter that might be a result of the EBCE program?
   17.6% Yes 82.3% No

10. If you had to do it over again, would you want your son/daughter to participate in the EBCE program?
    76.5% Yes -- No 5.9% Undecided
    5.9% no response 11.8% he/she has already enrolled

10. HOW DO PARTICIPATING RESOURCE PERSONS AND SITE COORDINATORS VIEW THE PROGRAM?

On July 12, 1977, a seven item opinionnaire was sent to each of the 74 resource persons who had cooperated with the project during its first semester of operation. Thirty of the resource persons responded to the initial mailing for a 40.5% return rate. A follow-up mailing was released on July 26, 1977, which increased the number of respondents to 48 for a 64.8% return rate. While this return rate is not outstanding, NED considers it an acceptable rate of return given the time of year during which the opinionnaires were distributed and the popularity of July and August as vacation months.

Responses to each of the seven items are summarized in Table IX below and appear to indicate that as a group the resource persons understand the purposes of EBCE (item 1) and endorse it as a viable program. It should be noted here that only four of the area businesses approached to participate in the program declined to do so and none of these refusals represent a negative attitude toward the EBCE program. In three instances the persons being approached indicated that the business was too small and too hectic for the student to benefit from a placement at that site. The fourth refusal was by a newspaper office which was undergoing a complete renovation at the time. It is anticipated that the newspaper office will become an active site once the renovations are completed.

TABLE IX

Responses to Resource Persons Opinionnaire
as a Percent of the Total Responding

(N=48)

*1. What do you see as the primary intent of the EBCE program at your site?

2.1% To train students
60.4% To assist students in making career decisions
37.5% To give students a clearer picture of the work world
2.1% To assist students in seeing the relevancy of school
2.1% Other
--"To provide a comprehensive education for students."

*2. Which statement BEST describes the initial deficiencies of the student(s) who visited your site?

31.2% They lacked skills needed at the site.
6.2% They had poor work attitudes (concern for the quality of work).
10.4% They had poor work habits (punctual, work with minimal supervision, etc.).
6.2% They had poor social skills (ability to work well with people).
2.1% They did not understand the practical application of school subjects.
25.0% They were well prepared.
22.9% Other
--The majority of "other" responses represented various combinations of A-F.
2.1% No response

*3. What major gain do you feel the students made by participating at your site?

29.2% Developed skills specific to this site
10.4% Improved work attitudes (concern for quality of work)
10.4% Improved work habits (punctual, work with minimal supervision, etc.)
10.4% Improved social skills (ability to work well with other people).
14.6% Opportunity to practice practical applications of school subjects.
33.3% Other
--The majority of "other" responses represented various combinations of A-E.

*Multiple responses allowed.

*4. What is your main concern in participating in the EBCE Program?

10.4% Taking time out of work days to work with students.
52.1% Providing students an opportunity to participate in job tasks which require trained skills.
4.2% Inadequate feedback from EBCE staff.
6.2% Do not fully understand my role in the program.
12.5% None
16.7% Other
--The majority of "other" responses represented various combinations of A-E.

*Multiple responses allowed.

5. Did the students interfere with your duties or the operations at the site?

41.7% No
22.9% Yes, but worth it
29.2% Yes, but expected it
6.2% Yes, more than expected

6. Overall do you feel the EBCE program is a worthwhile experience for students?

81.2% Yes 4.2% No 14.6% Not sure

7. Overall, do you feel the EBCE program is a worthwhile experience for you?

68.7% Yes 14.6% No 16.7% Not sure

11. WHAT IMPACT DOES THE EBCE PROGRAM HAVE UPON THE SENDING HIGH SCHOOL?

During a January 31--February 9 site visit a NED staff member interviewed GHS administrators and department heads. The results of these interviews are detailed in the site visit report dated February 28, 1977 (Appendix B). Suffice it at this point to note that the GHS faculty is not unanimously supportive of the project's efforts. There is good evidence that the basic concept of EBCE is acceptable to most of the GHS faculty as represented by the school's administrators and department heads. A concept by nature is easier to accept in the abstract and in the early planning stage, than in operation when the full implications of the program and their associated difficulties are faced. Thus, the emergence of conflict at this point in the program's development was predictable and to a degree unavoidable. The project continues to work closely with those GHS faculty who support the program and to keep all GHS faculty appraised of project activities through formal written communications. It must be noted that evaluation results provide no evidence that the four GHS faculty expectations expressed during the interviews have come to pass. These stated expectations were:

1. Whereas some of the EBCE enrollees will benefit from the program, most will not.

2. Students will be shortchanged in terms of academic progress. LCs cannot provide in one day per week, instruction comparable to that received from classroom teachers in five days per week. Some subjects require daily skill practice which the EBCE program will not offer.

3. EBCE is an "easy way out" for students, giving them unfair advantage in competing with regular students for the honor roll and class standing.

4. The students' maturity and ability to do independent study for credit is suspect.

Although it would be folly to contend that each of the twenty-eight students enrolled in EBCE benefited equally from participation in the program, based on the student and parent reports and student interviews it does appear that each of the students did derive benefit from the experience. As noted in NED's June 6, 1977, memorandum, (Appendix B), . . . "the students indicated that the individualized nature of academic instruction in EBCE encouraged them to learn more and to take their course work more seriously and more personally than would be true in a traditional program. They further indicated that because of the program staff's expectations for them, they were better able to handle independence and responsibility. It was interesting to note as an indication of the EBCE students' level of maturity that none of the students interviewed professed to be fully responsible and independent--quite an impressive admission for students in late adolescence." Furthermore, there is no evidence that participation in the EBCE experience was detrimental to the students' academic progress. Indeed, at the beginning of the program there were no siginificant differences between the EBCE group and either of the comparison groups in academic achievement as measured by standardized tests but the EBCE group did achieve significantly better than the GHS comparison group in mathematics on the post-test. Perhaps it can by hypothesized that there are some distinct advantages to the one-on-one approach to instruction employed by the EBCE program and to the on-site applications of learning as was noted by students during interviews as reported in NED's site reports dated April 29, 1977, and June 6, 1977, (Appendix B).

The CEB's relationship, then, with some of the GHS faculty is described best as tenuous. It is suspected that the alternative nature of CEB may pose some threat to some GHS staff members as it removes students who would otherwise be in their classes. The CEB staff has worked and will continue to work to keep the GHS faculty fully appraised of project activities emphasizing that the program provides an alternative to the traditional program and is for a limited number of students, not a replacement for the regular high school program.

12. WHAT RESULTS FROM PROJECT EFFORTS TO DISSEMINATE EBCE IN MAINE?

The project's first dissemination attempt was offered in the form of a four-day workshop from June 27-30, 1977. Although 15 New England educators indicated an intention to participate in this program, nine participated in the first day which provided an introduction to and an overview of EBCE as practiced in S.A.D. 51. Six individuals representing three school districts and NED participated in the full four days which were designed to sufficiently familiarize the participants with the operational aspects of EBCE that, with additional technical assistance from the project, they could begin to implement an EBCE program in their home districts. For those individuals who participated in the full four days, the workshop appeared to be a worthwhile and rewarding experience (Appendix C) as indicated on a Workshop Feedback Form.

The items on the Feedback Form are intended to serve two purposes, to assess the quality of the workshop and to provide the project staff with information on which to base modifications in workshop procedures. Although there were only six individuals who participated in the four-day session, seven completed Feedback Forms were submitted. Six of the seven respondents indicated that the workshop accomplished its stated objectives well (4) or extremely well (2) while the seventh individual gave the program an average grade. Four of the participants indicated that they received enough information during the four days to begin to replicate the project's program with additional technical assistance. Indeed, two of the respondents stated that they are committed to replicating the project's model in their districts.

The project's current plans call for a second workshop to be offered during the summer of 1978. The project's plans also provide for the delivery of technical assistance to participants in the June, 1977, workshop commencing in August, 1977.

Also scheduled for the fall of 1977 is the presentation of a slide-tape program designed to stimulate interest in and to orient interested school people to the EBCE approach at meetings of professional groups throughout the state. As of July, 1977, the project staff had developed a script outline for this presentation which is scheduled to be completed by September, 1977.

VII. GENERAL EVALUATIVE SUMMARY

During its second year of operation, S.A.D. #51's EBCE program has refined and expanded the quality program developed during the 1976-77 academic year. Greely High School's students continue to have a true alternative to the traditional high school program available to them. The program developed during the project's first year had reasonable fidelity to the AEL model as required by its funding source. During the 1977-78 year, however, the project shifted from attempting to offer Greely High School courses to a full utilization of the AEL curriculum and added the regularly scheduled "Group" to the program. These two modifications to the first-year program brought the S.A.D. #51 EBCE into full compliance with the AEL EBCE model.

By May 1, 1978 the program had developed 191 Resource people to serve its students. During the 1977-78 year, EBCE students began to become involved in the various facets of site development and in several instances assumed full responsibility for the development of quality sites.

Based on questionnaire and interview data, the S.A.D. #51 EBCE effort receives an overwhelming endorsement by its enrollees, their parents, and the community as represented by Resource Persons (RPs) who accurately view their role in the program as assisting students in obtaining a clear picture of the work world for the purpose of making better life decisions.

There is a common observation made by EBCE students, former students, their parents, project staff, and RPs. The one theme that emerges is that *EBCE students and former students do appear to be better able to handle freedom, are more independent, are more self-disciplined,-- in short, are more mature and skillful in coping with life--than their counterparts who have not had the benefit of the EBCE experience.*

On the basis of standardized tests administered to EBCE enrollees and to matched comparison groups, it has been demonstrated that there is no difference in academic performance for those youth participating in S.A.D. #51's EBCE, and the matched comparison group. During the 1977-78 academic year, career education credit was required for EBCE students. Their were no ascertainable differences in the attainment of career education knowledge, attitudes, and skills as measured by the Career Orientation Battery which can be attributed to participation in EBCE. It is possible, however, that the one-half academic credit career education effort did not result in sufficient formal career education exposure for the test instrument to be sensitive to any resulting growth. The project is in the process of increasing the amount of formal career education exposure each EBCE student will receive. As already noted, there is considerable evidence from a variety of sources that EBCE is positively impacting EBCE students in these areas.

Although not required to do so, by their funding source until the 1978-79 operational year, the project commenced dissemination activities with a week-long workshop for Maine educators in June, 1977. During the 1977-78 year the project staff, primarily the director, has worked extensively with Maine agencies and school districts as well as the Northeast Educational Consortium to promote and develop experience-based career education conceptually and programmatically in the state of Maine.

VIII. EVALUATION DISCUSSIONS

Working with the SAD #51 EBCE staff, NED developed a three-year evaluation plan which was reviewed and accepted by the project staff in December 1976. The evaluation plan identified twelve specific questions relative to the project's operations and outcomes which are to be addressed through the evaluation. Question 1 was, "How do project strategies and progress compare to the stipulations of the funding proposal?" Since the twenty-six items under this question are discussed in detail in Section VI of this report, Question 1 will not be discussed in this section. It must be noted, however, that NED does verify all evaluative statements made in the discussions of Question 1. Indeed, the project staff have done a laudatory job of meeting the stipulations of the funding proposal. Discussions of the other eleven evaluation questions are presented below.

7. WHAT TYPE OF STUDENT IS ATTRACTED TO EBCE? (out of sequence)

This area of investigation was planned to serve two purposes:

1. to draw a profile of the EBCE class and 2. to test several hypotheses concerning factors which distinguish EBCE applicants from non-applicants. Definitive answers to this evaluation question would provide insight into the program's image as seen by the GHS student body and therefore would have implications for recruitment strategies. Also, we hoped to better define the traits of students who feel a need for an alternative high school curriculum such as EBCE. Although it is generally agreed that EBCE is not for all students, NED is aware of no satisfactory explanation of who it is and is not for with the exception of AEL's observation that EBCE attracts few social leaders (class presidents, cheerleaders, etc.)--an observation that was not valid for CEB.

The data below constitutes a profile of the GHS students attracted to the EBCE program during its first three semesters of serving students.

	1976-77		1977-78		Combined	
Classification Factor	Number	Percent	Number	Percent	Number	Percent
Sex:						
Female	18	64%	12	36%	30	49%
Male	10	36%	21	64%	31	51%
Grade level:						
9th	2	7%	-	-	2	3%
10th	1	4%	8	24%	9	15%
11th	12	43%	9	27%	21	34%
12th	13	46%	16	49%	29	48%
Age:						
15	-	-	1	3%	1	2%
16	8	29%	9	25%	17	27%
17	12	43%	17	47%	29	45%
18	8	29%	7	19%	15	23%
19	-	-	2	6%	2	3%

Academic Achievement Level expressed as grade equivalent scores on the CTBS administered when the student entered the program were:

	1976-1977		1977-1978	
	Range	Mean	Range	Mean
Total Reading	5.5-13.6	12.3	5.0-13.6	11.1
Total Language	3.8-11.6	11.6	3.6-13.6	10.1
Total Math	6.0-13.6	10.8	6.0-13.6	10.3

Notes: 13.6 is the ceiling grade equivalent on the CTBS. The student's mean grade levels on the test dates were 11.8 for 1976-1977 and 11.2 for 1977-1978.

Reasons for applying to the program by student report on a questionnaire administered at the end of each semester were:

	1976-1977		1977-1978		Combined	
	Number	Percent	Number	Percent	Number	Percent
I wanted to learn more about careers.	15	68%	32	80%	47	71%
I wanted to see what it was like in the world of work.	13	59%	20	50%	33	50%
I wanted to get away from the regular high school program.	11	50%	12	30%	23	35%
I thought it would be easier than the regular program.	5	23%	0	0%	5	8%
I didn't like the competitiveness of the regular program.	3	14%	2	5%	5	8%
Other --I wanted to find out more about my interests. --I wanted the experience of meeting more and different people. --I had taken most of the courses and there was nothing left for me but courses I didn't really want.	3	14%	10	25%	13	20%

The comparison group involved in the evaluation was drawn from GHS students who did not apply for the program. Each student in this group was chosen to match an EBCE student in terms of grade level, sex, approximate grade point average, and course enrollment history. Several hypotheses were tested concerning the factors distinguishing EBCE and comparison groups in spite of the two groups' similarities on these dimensions.

Because a third of EBCE students indicated a desire to get away from the regular high school program as one reason for their application to EBCE, one hypothesis was that EBCE applicants' general affect for school is lower than comparison students'. However, no significant differences were found between EBCE and comparison students on the pre-test of the attitudes toward school scale of the Career Orientation Battery discussed under evaluation question 4.

A second hypothesis was that EBCE students would feel that they have greater internal control over their lives (locus of control). would be more comfortable with and better able to deal with adult independence, and would be more apt to take risks than their counterparts in the comparison groups. The Nowicki-Strickland Locus of Control Test was administered on a pre-post with comparison group basis during the 1977-78 year. An analysis of covariance test was used to check for differences between the groups. No significant differences were found $F(1,53) = .151$, $p = .70$ between the EBCE and comparison group's test results. It must be noted, however, that the students themselves as well as those working with them do perceive them as different in a positive way on these dimensions.

In conclusion, the EBCE group was composed largely of juniors and seniors representing a broad range of academic achievement with average reading skills and below average language and math skills. No factors have been identified which clearly distinguish them from non-applicants.

2. WHICH ACADEMIC AND CAREER CONCEPTS ARE LEARNED THROUGH SITE EXPERIENCES AND WHICH REQUIRE HEAVY RELIANCE ON MORE TRADITIONAL LEARNING METHODS?

During SAD #51 EBCE's first semester of serving students, the project attempted to teach traditional GHS courses through the AEL instructional techniques. During the 1977-78 academic year, however, the project increased the fidelity of its replication of the AEL model by more directly using the AEL approach to courses as well as to the instruction of those courses. As noted in NED's September 22 and October 14, 1977 site reports, the EBCE students who had participated in the program's first semester endorsed the move away from GHS courses with comments such as, "Our assignments have a lot more meaning this year and they seem more important somehow."

During a May 1978 site visit a NED staff member drew a random sample of sixty Student Activity Sheets (SAS). SASs for all three LCs were in the sample. An inspection of these SASs revealed that student assignments are

frequently interdisciplinary in nature as called for by the AEL model. Not surprisingly, the sites appear to be utilized for teaching career education concepts including positive attitudes toward work and learning as well as providing students natural opportunities to handle independence, decision making, and responsibility while functioning in an adult world.

As discussed in Section III of this report, the more technical subjects such as chemistry and advanced mathematics tend to rely on traditional teaching approaches for instruction. On the basis of the reviewed SASs, however, it appears that site experiences do provide stimuli and meaning for academic assignments. For example, the record keeping required in a bank, gas station, or retail outlet give meaning to mathematics assignments. Placements at a veterinarian's or doctor's office, in the research laboratory of a dairy, or in any of many hospital departments bring new life to basic science lessons. Placements with a trucker, in a lawyer's office, or in a television newsroom emphasize the need for communications' skills including writing skills. Site placements frequently provide exciting topics for compositions of far more meaning to the students than the gender represented by "What I did last summer."

3. HOW DOES THE ACADEMIC ACHIEVEMENT OF EBCE STUDENTS COMPARE WITH THAT OF STUDENTS IN MORE TRADITIONAL HIGH SCHOOL PROGRAMS?

It was hypothesized that students' academic achievement at the termination of the EBCE program would be equivalent to that of students in the comparison group. NED is well aware that no research design can substantiate an inference of no differences, but an absence of measurable differences will be accepted as the best possible evidence that the groups' achievement is equivalent.

Two groups were used to evaluate this question. The first consists of those students who participated in EBCE. A comparison group, as described in evaluation question 7, was the second group.

In accordance with the precedent set by NIE's EBCE evaluation model, the Comprehensive Tests of Basic Skills (CTBS), Level 4, Form 5 was used to measure academic skills' achievement. Eight of the CTBS scales were administered at the beginning and end of each semester. The testing situations were not constant across students and administration dates. Due to logistical problems the size of the testing groups, the test administrator, the setting, and the time allowed for completion all varied slightly.

Some students did not take both the pre-test and the post-test and hence were eliminated from any analyses. Also, in order to partially compensate for extraneous factors in test administration and because the CTBS is not intended to be a timed test, students were eliminated from the analyses of any scale on which more than 10% of the items were left blank.

The analysis of covariance model was used to test the post-test differences between the two groups while accounting for random pre-test differences. Since the analysis of covariance assumes that the two evaluation groups were drawn from the same pre-treatment populations, between-group differences on the pre-test were tested using a one-way analysis of variance. No significant differences ($p > .05$) were found on seven of the eight scales. A significant difference ($F(1, 68) = 6.68$, $p < .01$) was found on the Math Applications scale. Because of this significant difference, further analyses on this scale should be interpreted cautiously. It appears that the comparison group is sufficiently similar to the EBCE on the dimensions tapped by the CTBS, assuming caution is used as noted above.

Pre- and post-test results are summarized in Table VIII-I and analysis of covariance tables are presented in Table VII-II. There were no significant differences between the groups on any of the scales. The significant superiority of the comparison group on the Math Applications pre-test is eliminated on the post-test. An inspection of the means shows that this is due to both an improvement in the EBCE group and a decline in the comparison group.

The results of the analysis of covariance provide no reason to reject the hypothesis that EBCE and traditional high school programs are equally effective in developing or maintaining students' basic skills.

Table VIII-I: Summary of CTBS Results
(Raw Scores)

Scale	Group	N	Means Pre-test	Means Post-test	Means Raw Gains	Means Adjusted Post	Standard Deviations Pre	Standard Deviations Post	Significance Level of F *
Reading Vocabulary (40 items)	CEB	35	25.40	26.71	1.31	27.11	7.89	8.52	NS
	CG	34	26.29	27.91	1.62	27.41	8.45	8.06	
Reading Comprehension (45 items)	CEB	34	27.53	29.88	2.35	29.66	8.43	8.36	NS
	CG	34	26.94	28.74	1.80	28.73	7.89	8.93	
Spelling (30 items)	CEB	34	17.97	18.49	.52	18.37	5.32	5.62	NS
	CG	35	18.03	17.49	- .54	17.46	6.21	5.92	
Language Mechanics (20 items)	CEB	35	12.97	13.77	.80	13.69	3.64	3.68	NS
	CG	35	12.69	13.77	1.08	13.85	3.32	3.57	
Language Expression (35 items)	CEB	34	20.62	22.54	1.92	22.52	6.22	5.59	NS
	CG	35	20.37	21.54	1.17	21.63	5.08	5.99	
Math Computations (48 items)	CEB	35	30.49	28.34	-2.15	28.77	8.65	8.94	NS
	CG	34	31.49	30.71	- .78	30.27	8.10	9.18	
Math Concepts (25 items)	CEB	34	15.29	15.18	- .11	15.33	5.19	5.26	NS
	CG	34	15.69	15.74	.05	15.59	4.67	4.65	
Math Applications (25 items)	CEB	35	11.74	12.62	.88	13.68	4.99	6.31	NS
	CG	34	14.91	14.38	- .53	13.32	5.27	4.97	

* NS means $p > .05$

Table VIII-II: CTBS Analysis of Covariance Summary

Scale	Source of Variance	df	MS	F	P
Reading Vocabulary	Pre-test	1	3671.04	237.84	.001
	Program	1	1.56	.10	NS
	Error	66	15.44		
	Total	68	68.99		
Reading Comprehension	Pre-test	1	2569.04	68.31	.001
	Program	1	14.63	.39	NS (.54)
	Error	64	37.61		
	Total	66	75.61		
Spelling	Pre-test	1	1474.80	126.70	.001
	Program	1	14.42	1.24	NS (.27)
	Error	66	11.64		
	Total	68	33.20		
Language Mechanics	Pre-test	1	272.32	29.45	.001
	Program	1	.47	.05	NS (.82)
	Error	67	9.25		
	Total	69			
Language Expression	Pre-test	1	1218.11	75.78	.001
	Program	1	13.66	.85	NS (.36)
	Error	66	16.07		
	Total	68	33.72		
Math Computation	Pre-test	1	3377.14	102.25	.001
	Program	1	38.27	1.16	NS (.29)
	Error	66	33.03		
	Total	68	82.28		
Math Concepts	Pre-test	1	958.43	92.54	.001
	Program	1	1.22	.12	NS (.73)
	Error	65	10.36		
	Total	67			
Math Applications	Pre-test	1	801.39	37.87	.001
	Program	1	1.93	.09	NS (.76)
	Error	65	21.16		
	Total	67	32.52		

4. HOW DO EBCE STUDENTS COMPARE WITH OTHERS ON THE ATTAINMENT OF CAREER EDUCATION KNOWLEDGE, ATTITUDES, AND SKILLS?

It was hypothesized that EBCE would have a positive impact on the students with respect to career education objectives as measured by the Career Orientation Battery (COB). The COB consists entirely of multiple-choice questions and contains eight scales which are described in terms of the attributes they measure in Table VIII-III. The eight scales of the COB were administered using the same pre-post with comparison group design which was used for the CTBS. The two evaluation groups were the same as those described under evaluation question 3.

Scores on COB scales were coded as missing if more than 10% of the scale's items were missing. Also, students were eliminated from all analyses of any scale for which either the pre- or post-test score was missing. Thirty-five EBCE students and thirty-one comparison group students took the COB on both occasions.

A one-way analysis of variance was used to test for differences between the groups on the pre-test. No significant differences were found on any of the scales. An analysis of covariance was used to test for post-test differences. Again, no significant differences were found (see Table VIII-IV).

In conclusion, there is no compelling test evidence that the EBCE program affected any of the eight dimensions of career education knowledge, skills, and attitudes assessed. It is possible that the time span between test administrations was insufficient for measurable growth to occur, or that the COB may not be sensitive to the growth which does occur. A further possibility is that contact with the work world in itself does not result in the achievement of career education objectives as measured by the COB. Still another possibility is that the basic philosophy of EBCE (individually designed learning packages) would result in random growth in generally accepted areas of career education knowledge because of design.

5. WHAT IS THE EFFECT OF EBCE UPON LONG-TERM RETENTION OF ACADEMIC LEARNING?

As has been noted earlier, during the EBCE program's first semester of operation the course titles and content of the EBCE courses were largely those of GHS's school-based program. Therefore, the Three-year Evaluation plan called for administering the same teacher-made final examination for EBCE students as were administered to GHS students in June, 1978. The long-term effect upon retention of academic learning was to have been tested once during the project's funded life. In June, 1979, the same examinations were to have been readministered to the EBCE students and to a matched comparison group of GHS students to test the hypothesis that more academic course content is retained on a long-term basis by EBCE students than by students who learn in the traditional classroom setting.

Table VIII-III: Summary of COB Results
1977-78
(Raw Scores)

Scale	Group	N	Mean Pre-test	Mean Post-test	Mean Raw Gain	Adjusted Post	Standard Deviations Pre	Standard Deviations Post	Significance Level of F
Career Planning: Students will recognize the importance of career planning, view career planning as a life-long process, and be able to identify the relative importance which should be placed on various factors in making career decisions (21 items)	EBCE	35	14.60	14.69	.09	14.58	2.02	2.26	NS
	CG		14.19	14.48	.29	14.66	3.06	3.20	
Work Behavior: Students will be able to identify appropriate responses to situations faced in work settings that require skills in interpersonal relations (11 items)	EBCE	35	6.86	6.74	-.12	6.76	1.87	2.01	NS
	CG		6.71	6.61	-.10	6.65	2.27	2.29	
Attitudes toward School: Students will possess positive attitudes about school and school achievement and will view school learning experiences as relevant to adult life (12 items)	EBCE	35	8.89	9.43	.54	9.30	1.71	2.20	NS
	CG		8.39	8.29	-.10	8.42	2.31	2.47	
General Occupational Information: Students will possess basic knowledge about employment, such as employment related laws and the reasons for various methods and amounts of payments (21 items)	EBCE	35	13.86	13.68	-.18	13.72	3.03	3.30	NS
	CG		13.65	14.68	1.03	14.79	3.22	2.57	

cont. Table VIII-III

Scale	Group	N	Mean Pre-test	Mean Post-test	Mean Raw Gain	Adjusted Post	Standard Deviations Pre	Standard Deviations Post	Significance Level of F
Attitudes toward work: Students will desire to work and will possess attitudes which are likely to facilitate adjustment to and succes in employment settings (18 items)	EBCE	35	13.11	12.34	-.77	12.28	2.58	2.87	NS
	CG		12.52	13.00	.48	13.19	2.55	2.71	
Specific Occupational Information: Students will be aware of a variety of occupations in terms of workers' training requirements, pay, personality factors, interests, and abilities (50 items)	EBCE	34	32.86	32.35	-.51	32.69	6.29	8.18	NS
	CG		33.94	34.36	.42	33.99	6.59	6.53	
Sex Equity: Students will regard gender as irrelevant in matters pertaining to career planning, preparation, and employment (16 items)	EBCE	35	11.29	10.77	-.52	10.30	3.03	3.88	NS
	CG		9.94	10.45	.51	11.10	2.65	3.03	
Job Seeking: Students will be knowledgeable about job applications procedures and appropriate interview behavior (18 items)	EBCE	34	10.50	10.91	.41	11.02	2.85	3.29	NS
	CG	30	10.67	10.13	-.54	9.97	2.17	2.52	

Table VIII-IV: COB Anaysis of Covariance

Scale	Sorce of Variance	df	MS	F	p
Career Planning	Pre-test	1	215.24	50.54	.001
	Program	1	.10	.02	NS
	Error	62	4.26		
	Total	64	7.49		
Work Behavior	Pre-test	1	74.81	21.43	.001
	Program	1	.18	.05	NS
	Error	62	3.491		
	Total	64	4.554		
Attitudes toward school	Pre-test	1	173.76	29.34	.001
	Program	1	12.57	3.12	NS
	Error	62	18.37		
	Total	64	5.74		
General Occupational Information	Pre-test	1	173.76	29.48	.001
	Program	1	18.37	3.12	NS
	Error	62	5.89		
	Total	64	8.71		
Attitudes toward work	Pre-test	1	109.46	18.11	.001
	Program	1	13.19	2.18	NS
	Error	62	6.05		
	Total	64	7.77		
Specific Occupational Information	Pre-test	1	1260.98	34.54	.001
	Program	1	27.46	.75	NS
	Error	62	36.51		
	Total	64	55.50		

cont. Table VIII-IV

Scale	Source of Variance	df	MS	F	P
Sex Equity	Pre-test	1	401.05	68.05	.001
	Program	1	9.77	1.66	NS
	Error	62	5.89		
	Total	64	12.13		
Job-Seeking Skills	Pre-test	1	107.17	14.90	.001
	Program	1	16.88	2.35	NS
	Error	58	7.19		
	Total	60	9.02		

The scheme of using GHS final examinations for EBCE with a GHS comparison group ceased to be a viable approach when the EBCE course offerings no longer were completely parallel with GHS courses. This situation was discussed in some detail by a NED representative and the project staff during NED's December 12-13, 1977 site visit. (December 15, 1977 memorandum, Appendix A). On the basis of those discussions, the project staff and NED agreed to delete this question from the three-year Evaluation Plan because no adequate procedures or comparison group can be identified to test the basic hypothesis.

6. WHAT BECOMES OF EBCE STUDENTS AFTER THEY LEAVE THE PROGRAM?

Informal follow-up of students who have left the program have been conducted. These follow-up activities are discussed in NED's December 5, 1977, and February 17, 1978, memorandum (Appendix A). On the basis of the limited follow-up, students view the program positively and noted clarifying career goals, greater self confidence, and better interpersonal skills as benefits of participating in EBCE.

On the basis of interviews with teachers of students who had left the EBCE to return to the regular GHS programs, it was noted:

> Not surprisingly, it appears a semester's participation in EBCE does not result in dramatic changes in student behavior and the complete elimination of undesirable attitudes and habits. It does seem, however, that some subtle positive changes are evident for all three of these students after their EBCE experiences. (December 15, 1977 memorandum--Appendix A).

During July 1978, each of the twenty-three EBCE alumni were sent a Follow-up Questionnaire (Appendix B). Since there was only a 35% return rate, these data are not presented here. It can be noted, however, that each of these former EBCE students who did return the questionnaires provided information and comments which were basically supportive of the observations and comments made by enrolled students, RPs, and parents. These individuals reported that the EBCE experience gave them greater self confidence and taught them to accept responsibilities, to respect others, and to get along with a variety of people. This group also noted that the program assisted them in focusing on careers by both making them aware of options they had not previously considered and by providing them a realistic basis for eliminating career areas that they had been considering.

NED will complete an extensive follow-up of <u>all</u> former EBCE students in March, 1979.

8. HOW DO EBCE STUDENTS VIEW THE PROGRAM?

There are three basic data sources used to seek answers for this question. Two questionnaires jointly developed by the project and NED staffs are used. These are a Student Opinionnaire (Appendix C) completed by students at the end of their EBCE experience each year and an EBCE Resource Person Feedback Form (Appendix C) completed by students after they have completed their stay at each site. NED observations and interviews with currently-enrolled EBCE students and former-EBCE students during site visits also contribute information for this question.

It should be noted that the Resource Person Feedback Form was developed and used in response to student requests for a means to rate the quality of a site placement with completed forms available to other students before selecting a site. These requests were discussed by the project staff and a NED representative during NED's October 4-5, 1977 site visit and on the basis of that discussion the feedback form was developed and put into use about November 1, 1977.

Each year EBCE students are asked to assess the program by responding to a Student Opinionnaire. Twenty-two of the 1976-77 and forty of the 1977-78 EBCE students returned the completed opinionnaires. Following as Table VIII-V is a synopsis of the students' assessments of the SAD #51 EBCE program for each year of the program's operation.

TABLE VIII-V

Student Responses to Questionnaire Items
as Percents of those Responding by Year
1976-77 (N = 22) 1977-78 (N = 40)

		76-77	77-78
1.*	I chose to go into EBCE because:		
	I wanted to Learn more about careers.	68.2	80.0
	I wanted to get away from the regular high school program.	50.0	30.0
	I thought it would be easier than the regular program.	22.7	--
	I didn't like the competitiveness of the high school program.	13.6	5.0
	I wanted to see what it was like in the world of work.	59.1	55.0
	Other:	13.6	25.0
2.	I think EBCE should be offered in every high school program throughout the United States.		
	Yes	81.8	77.5
	No	4.5	7.5
	Undecided	13.6	15.0

* Multiple responses permitted

cont. Table VIII-V

		76-77	77-78
3. I would recommend EBCE to my friends.			
	Yes	72.7	75.0
	No	13.6	5.0
	Undecided	13.6	12.5
	Omit		7.5
4. I learned a lot of useful things in EBCE that I could not have learned in my regular Greely High School classes.			
	Yes	100.0	97.5
	No	--	2.5
	Undecided	--	--
5. If I had to do it over again, I would participate in the EBCE program.			
	Yes	50.0	67.5
	No	13.6	5.0
	Undecided	18.2	17.5
	I am going to	18.2	10.0
6. I have learned more about myself through the EBCE program than I would have in the regular program.			
	Yes	95.4	87.5
	No	--	10.0
	Undecided	4.5	2.5
7. On the whole, the people at the sites usually treated me:			
	as a visitor or tourist	9.1	5.0
	as a co-worker	86.4	95.0
	as a child	4.5	--
	mostly, they ignored me	--	--
8. I considered myself a student at Greely High School during my participation in the EBCE program.			
	Yes	50.0	25.0
	No	40.9	50.0
	Undecided	9.1	22.5
	Omit	--	2.5
9. I learned as much in my academic subjects in the EBCE program as I would have in the regular program.			
	Yes	77.3	42.5
	No	13.6	25.0
	Undecided	9.1	32.5

cont. Table VIII-V

		76-77	77-78
10. I feel the amount of academic work I did in the EBCE program as compared to the amount I would have done at GHS was:			
	about the same	31.8	30.0
	more	50.0	57.5
	less	18.2	12.5
11. I feel the difficulty of the academic work I did in the EBCE program as compared to the difficulty of the academic work I did at GHS was:			
	about the same	59.1	50.0
	more difficult	18.2	27.5
	less difficult	22.7	7.5
	Omit	--	5.0
12.* What did you miss most from the GHS program by participating in EBCE?			
	classes	9.1	10.0
	friends	77.2	60.0
	after school activity	4.5	2.5
	teachers	9.1	--
	nothing	13.6	17.5
	other	4.5	10.0
13.* I think EBCE is a good program for:			
	all students	31.8	40.0
	seniors	50.0	40.0
	juniors	50.0	17.5
	sophomores	--	--
	freshmen	--	--
	no one	--	--
	other:		
	(all mature students)	--	2.5
14. I think EBCE is good for:			
	good students	4.5	10.0
	average students	9.1	10.0
	poor students	--	5.0
	all students	86.4	75.0
	no one		

* Multiple responses permitted.

The response patterns for both of the responding groups tended to be remarkably similar. Students who participated in SAD #51's EBCE program in general considered it a very positive experience. More than 68% of the first-year students indicated they either would or planned to enroll in EBCE again and this percent increased to 85% for the second-year group. This increase may reflect the better organization of program which is possible during a program's second year.

The 1977-78 students continued to endorse the uniquenesses of the EBCE learning experiences as all but one of the responding students agreed with the statement that, "I learned a lot of useful things in EBCE that I could not have learned in my regular Greely High School classes."

It may be that "the word has spread" that SAD #51's EBCE is *not* an easy way out for students. Almost a quarter of the first-year students indicated that they elected to enter the program because they thought it would be easier than the regular program (item 1) but none of the second-year students indicated this as a reason for entering the program. The great majority of the EBCE students continue to indicate that the amount of academic work required of them was equal to or greater than would have been true in the regular program (item 11) but more than 30% fewer could indicate they learned as much in academic subjects (item 10). Most of the shift, however, appears to have been from a "yes" response to an "undecided" response as more than 38% of the 1977-78 participants compared to 9% of last year's participants so responded.

During the 1977-78 year the project staff attempted to build an EBCE group identity for the students through activities such as camping trips, picnics, and other EBCE extra-curricular activities. The students' responses to item 9 could be interpreted as an indication that these activities did accomplish their purpose as only 25% of the second-year group considered themselves GHS students as contrasted with 50% of the first-year group.

The 77-78 students rated their site experiences as each site placement concluded. Since the site placement activities account for approximately 80% of the students EBCE activities, it is important that these placements provide students with high quality experiences. The student evaluations of these experiences are summarized below in Table VIII-VI.

Table VIII-VI

Student Resource Person Feedback Form Responses As a Percent of 122 Forms Completed 1977-78

Number of placements: 122

Average number of days at site per placement: 11.5

-The resource person USUALLY treated me as:

a student 15.6	a coworker 59.8	a child --
a student-coworder 10.7	an adult guest 2.5	if I was not there 2.5
coworker-adult guest 2.5	student-adult guest 2.5	omit 4.1

	Almost Always	Frequently	Usually	Seldom	Almost Never	Omit
-The Resource Person:						
Understood my needs	50.0	27.0	17.2	4.1	0.8	0.8
Understood and accepted my faults	63.9	21.3	10.7	1.6	0.8	1.6
Was friendly	86.9	5.7	6.6	--	0.8	--
Was courteous	82.8	9.8	5.7	--	0.8	0.8
Was sincere	81.1	11.5	5.7	0.8	0.8	--
Was honest	86.9	6.6	4.9	--	0.8	0.8
Responded to my questions in a helpful way	70.5	17.2	8.2	2.5	1.6	--
Was helpful in meeting my needs	59.8	21.3	10.7	4.1	2.5	1.6

-For me, I rate this experience overall as:

excellent	47.5	good	30.3	average	16.4	
poor	3.3	useless	1.6	omit	0.8	

In the judgement of the students who are participating in these site placements, the great majority of them are worthwhile experiences. Almost 80% of the placements were rated as either good or excellent while less than 5% of them were rated as poor or useless. Indeed the only area of *relative* weakness for the Resource Persons (RPs) are the areas of understanding the student's needs and faults. It cannot be emphasized too strongly that these are identified only as areas not rated as consistently high for RPs as other areas. It could be that the project staff may wish to address ways of improving the students' site experiences in these two areas. If this is accomplished we may see more students giving RP's higher ratings in meeting their needs.

The interviews with and observations made by NED staff of EBCE and former-EBCE students are summarized in the site reports included as Appendix A. The one theme that emerges is that EBCE students and former students do appear to be better able to handle freedom, are more independent, and are more self-disciplined--in short, are more mature--than their counterparts who have not had the benefit of the EBCE experience. Unfortunately we do not have quantitative data to support these observations. Nevertheless, a validity is provided these observations by the fact that they were arrived at independently by parents, project staff, RP's, NED staff, and, not the least important, the EBCE students and former students themselves.

9. HOW DO EBCE STUDENTS' PARENTS VIEW THE PROGRAMS?

During the summers of 1977 and 1978 all parents who had daughters or sons enrolled in the EBCE program during the preceeding year were mailed a questionnaire (Appendix C). Although there was no follow-up mailing done on these questionnaires 65% and 71% of the questionnaires were returned in 1977 and 1978 respectively by parents who had one or more children enrolled in the EBCE. The parent responses for both of the years in which these questionnaires were administered are summarized below as Table VIII-VII.

TABLE VIII-VII
Parent Responses to Questionnaire Items as Percents of those Responding
1976-77 (N = 17) and 1977-78 (N = 25)

		1976-77	1977-78
1. Have you received enough information about the nature of your son's/daughter's EBCE program?			
	Yes	82.3	88.0
	No	11.8	---
	Undecided	5.9	12.0
2. Do you feel you got enough information about your son's/daughter's progress in the EBCE program?			
	Yes	82.3	88.0
	No	17.6	8.0
	Undecided	---	4.0
3. Do you feel that EBCE is a worthwhile program?			
	Yes	94.1	96.0
	No	---	---
	Undecided	5.9	4.0
4. Do you think your son's/daughter's attitude toward school has changed as a result of the EBCE program?			
	Yes	64.7	76.0
	No	23.5	12.0
	Undecided	11.8	12.0

		1976-77	1977-78
5. Has the EBCE program helped your son/daughter to form career plans?			
	Yes	64.7	68.0
	No	5.9	8.0
	Undecided	29.4	24.0
6. Do you think your son/daughter learned a great deal about the work world in the EBCE program?			
	Yes	82.3	84.0
	No	11.8	4.0
	Undecided	5.9	12.0
7. Would you say your son/daughter has learned as much academically in the EBCE program as he/she would have learned in the regular high school program?			
	Yes	58.8	64.0
	No	23.5	8.0
	Undecided	17.6	28.0
8. Have you noticed positive changes in your son/daughter that might be a result of the EBCE program?			
	Yes	88.2	96.0
	No	11.8	4.0
9. Have you noticed negative changes in your son/daughter that might be a result of the EBCE program?			
	Yes	17.6	12.0
	No	82.3	88.0
10. If you had it to do over again, would you want your son/daughter to participate in the EBCE program?			
	Yes	76.5	92.0
	No	---	---
	Undecided	5.9	4.0
	he/she is already enrolled	11.8	4.0
	no response	5.9	---

As a group the parents of EBCE students appear to enthusiastically endorse the program as a worthwhile experience for their daughters and sons. More than 88% of the 1976-77 and 96% of the 1977-78 parents indicated that they would either want their son/daughter to participate in EBCE if they had it to do over or that their son/daughter had already reenrolled in EBCE.

Parents were encouraged to offer comments after items 4, 8, and 9 and many of them did so. Sixteen 1977-78 parents commented on item 4 (attitudes toward school) and without exception, they either directly stated, "better and more positive," or provided indications of this such as:

- No longer finds subjects boring and difficult;

- no problem getting her to do her homework;

- looks forward to each new experience;

- doesn't complain about school anymore--seems to look forward to each day;

- is doing more studying on his own; and

- in the past has talked about quiting school. Since EBCE--he looks forward to going and goes willingly.

Eighteen 1977-78 parents responded with examples of positive changes in their children as a result of EBCE. Representative of these comments are:

- more self-confidence;

- confident in herself and what she can do;

- . . . salvaged what was a disastrous academic career. She finally "put it all together.";

- more confident in himself--more outgoing, more responsible;

- he feels sure about what career he will pursue;

- she matured and decided what field she is really interested in;

- she seems to know where she is going and I hope her decisions will continue to be a realistic;

- he has more interest and ambition now;

- more mature and responsible, more self-confidence; and

- less shy, more poised and sure of self--no longer negative but bloom--ing, able to meet people and converse interestingly--confidence in self.

Three of the 1977-78 parents indicated negative changes for their children as a result of the EBCE experience. Two of these parents offered comments concerning this:

- cannot seem to organize time to complete academic assignments as expected. tends to try to do an entire week's assignments the night before class; and

she seems to have developed an independence that sometime is hard to deal with, "I did this," "I want to do that," "I" can do that with less regard for the rights of others.

A final item asked parents to make suggestions for improving the EBCE program. An unusually high 24 of the 25 parents indeed did avail themselves of the opportunity to make such comments. The majority of these comments were such as:

- it was an excellant experience for my daughter; and

- just keep it going!

Three parents indicated that better transportion arrangements would be desirable but did not offer specific suggestions as to how to accomplish this. Two parents each mentioned they would like to see better physical arrangements and more space for EBCE and that additional sites would be desirable. One parent noted that EBCE students were allowed too much freedom to come and go as they wished. (It should be noted, that no EBCE student has this freedom unless a parent approval form is on record.) Two parents commented on the appropriate grade levels for participation in EBCE.

One parent indicated, "Absolutely not one under the junior year in high school should be allowed to participate." while the other one said, " . . . open the program to sophomores with the idea of turning around students such as our son at an earlier time in their academic career."

During the May 15-17, 1978 visit to the project by the monitoring team of the funding agent (NED's May 30, 1978 site report--Appendix A), parents were invited to meet with the team. Although notice was short, more than a dozen parents did meet with the team. The parents enthusiastically endorsed the program and their comments closely paralleled those recorded on the parent questionnaire.

If the EBCE program is to continue as an SAD #51-funded program when the external funding ceases in September, 1979, this parental support must be conveyed effectively to SAD #51's decision makers. The program and, therefore, SAD #51's students can benefit if this parental support is organized with direction and purpose. The project staff may wish to place a high priority on developing ways to facilitate the development of such a parent organization.

10. HOW DO PARTICIPATING RESOURCE PERSONS VIEW THE PROGRAM?

During the summer of 1977 all Resource Persons (RPs) were sent a seven-item opinionnaire concerning the program. The results of that questionnaire are discussed in NED's first-year report dated August 1977. It was noted at that time that they appeared, "to indicate that as a group the RPs understand the purposes of EBCE and endorse it as a viable program."

During a June 6-8, 1978 visit to the project a NED staff member interviewed a random sample of fifteen RP's. Although an additional five RP's had been scheduled, the similarity of responses from RP to RP led NED to cancel the last five interviews. Also, the interview data from the summer 1978 closely paralleled the opinionnaire data from the summers of 1977 and 1978 as noted in the discussion which follows. The results of the June 1978 interviews are summarized in NED's site visit report dated June 20, 1978 (Appendix A). Suffice it to note here that the RPs continue to be supportive of the program's efforts and view the program as beneficial to both the site and to the students.

An additional indication of RP interest in and support for the project was the extent to which they found time from busy schedules to meet with as well as to socialize with the Federal Monitoring Team during their May 1978 visit to the program. Ten of the RPs voluntarily came for sessions with the Federal Team.

At the conclusion of a student's placement at a site, the RP was asked to complete the AEL Student Evaluation Form (Appendix C) and to return it by mail to the LS. The form includes identifying information such as student name, employer site, and a brief description of student experiences at the site. It also asks the RP to identify student strengths, weaknesses, or unique accomplishments and to provide a record of student attendance at the site. Furthermore, the form contains fifteen questions on personal qualities, which were rated by the RP on a 6-point scale. Scale values used are as follows:

0 = not applicable
1 = poor
2 = below average
3 = average
4 = above average
5 = excellent

Results of 226 forms were tabulated in terms of absolute frequency and mean rating and are presented in Table VIII-VIII. A total of 44 EBCE students had experiences, at five sites, on the average. However, the number of sites experienced differed from one student to another, ranging from 1 to 15 during the period being considered. Therefore, for each student, an average rating was computed across his/her sites. Then for each item an overall average rating was computed across students. Overall average ratings ranged from 3.84 on item 13 to 4.27 on item 4. *Asks appropriate questions* received the lowest overall average rating from the RPs. Although the overall average rating of 3.85 itself is quite good, the EBCE staff may wish to underscore the importance of asking appropriate questions at the site to the students. *Is friendly and courteous* received the highest overall average rating from the RPs. The overall average rating of 4.27 falls between above average and excellent. The site people were most impressed

by the EBCE student's friendly and courteous behavior at the site. In general, overall average ratings indicate the satisfaction of the sites with the EBCE students' performance at the site. As noted under evaluation question 8, the student also evaluated his/her resource person. The RPs were evaluated by the majority of students (86.9%) to be almost always friendly to them. On the other hand, the students viewed their RPs as not always perceptive or responsive to their needs.

The indications from both of these perspectives, students and RPs, seem to indicate that a friendly atmosphere was established at the site placements. However, the students' perceptions that the RPs were not always aware of or responsive to their needs, together with the RPs perceptions that the students did not often ask appropriate questions seems to suggest a possible lack of effective communication on the part of both parties. The project staff may wish to direct some efforts toward improving this general area of *relative* weakness for both the student and his/her resource person.

11. WHAT IMPACT DOES THE EBCE HAVE UPON THE SENDING HIGH SCHOOL?

In the First-year Third-party Report (August 1977) it was Noted:

> . . . at this point. . . the GHS faculty is not unanimously supportive of the project's efforts. There is good evidence that the basic concept of EBCE is acceptable to most of the GHS faculty as represented by the school's administrators and department heads. A concept by nature is easier to accept in the abstract and in the early planning stage, than in operation when the full implications of the program and associated difficulties are faced.

The EBCE staff and students worked diligently throughout the 1977-78 school year to convey a positive and accurate picture of EBCE as an alternative program which can be of benefit to some of GHS students. Through informal contacts between EBCE students and staff with other GHS students and faculty, the EBCE "message" has been reiterated over and over. During 1977-78 the EBCE students made a presentation at a GHS faculty meeting to acquaint them with their activities and experiences in the program.

During the May 1978 visit of the Federal Monitoring Team, the GHS principal not only attended those functions for which he was scheduled but also put in several additional hours out of a busy schedule to meet with the Team. In both actions and words he was very supportive of the program's efforts.

The EBCE does appear to be gaining increasing acceptance with a number of GHS faculty. In December 1978 NED intends to monitor this progress through either questionnaires to or interviews with all or substantially all GHS faculty.

Table VIII-VIII. Student Evaluation Form

Absolute Frequency and Mean Rating

		0=not applicable	1=poor	2=below average	3=average	4=above average	5=excellent	Overall Average Rating
1.	Accepts and understands the needs, feelings and faults of others	21	0	2	74	72	57	3.90
2.	Accepts and fulfills responsibilities	10	2	4	45	83	82	4.11
3.	Exercises good judgment	10	2	3	66	83	62	3.93
4.	Is friendly and courteous	0	0	1	48	66	111	4.27
5.	Has a sense of humor	15	0	2	65	60	84	4.07
6.	Is accepted well by other employees	10	0	2	57	66	91	4.14
7.	Is dependable	5	1	3	51	72	94	4.15
8.	Is willing to accept suggestions	5	0	3	45	90	83	4.14
9.	Conscientious in fulfilling assignments	10	0	4	40	89	83	4.16
10.	Follows directions	3	0	2	47	83	91	4.18
11.	Work is neat and accurate	26	0	3	62	63	72	4.02
12.	Is honest and sincere	9	0	3	42	73	99	4.24
13.	Asks appropriate questions	0	5	10	71	68	72	3.85
14.	Reports to site on time	5	1	5	50	59	106	4.19
15.	Is cooperative and industrious	3	0	5	51	75	92	4.14

Total = 226 Student Evaluations Forms returned

Total = 44 Students rated

12. WHAT RESULTS FROM PROJECT EFFORTS TO DISSEMINATE EBCE IN MAINE?

During the 1977-78 academic year the SAD #51 EBCE project became increasingly active in the dissemination of EBCE concepts and programs throughout Maine. In the period September, 1977 through June, 1978 visitors representing sixteen Maine school districts visited the project to observe and to learn about its operations. The project staff, particularly the director, has been actively involved in speaking before professional and service groups, and to more than fifteen LEA's. The project has both published newsletters and has regularly contributed to the newsletters of the national AEL-EBCE network. The project director is a member and current president of the Northeast Educational Consortium which lists first amongst its by-laws:

> To promote Experience Based Career Education (hereinafter EBCE) in the State of Maine.

The project staff have also worked with the Consortium and various agencies and school districts to develop and adapt the EBCE approach in a variety of settings. All of these activities are discussed in detail in Section VI of this report.

It was NED's judgement that the time lag between the dissemination activities and April 1978 was not sufficient for those activities to have resulted in significant change in the recipients of these services. Therefore, answers to this evaluation question will not be sought until March-April 1979. At that time, NED will survey the recipients of SAD #51's dissemination efforts through questionnaires and telephone interviews to ascertain the impact of those efforts.

IX. RECOMMENDATIONS

We recommend that SAD #51's EBCE program continue as a demonstration project for the third year, 1978-79. This includes meeting the goals and objectives of the third-year as outlined in the funding proposal.

We also recommend that SAD #51 complete plans to operate the model which has been developed with the equivalent of two Learning Coordinators and a half time Placement Coordinator.

Is is finally recommended that an outreach effort be supported by state and federal funds subsequent to the current year to continue the dissemination of the SAD #51 EBCE operational model throughout Maine and New England.

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AN INTERIM EVALUATION REPORT

OF THE FIRST TWO AND A HALF YEARS

SAD #51's EXPERIENCE BASED CAREER EDUCATION PROGRAM

MARCH 20, 1979

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GENERAL SUMMARY

On the basis of a two and a half year study of SAD #51's Experience Based Career Education (EBCE) Program, New Educational Directions, Inc., (NED) concludes that:

*EBCE students learn academics as well as their counterparts in more traditional programs.

*EBCE students represent a wide range of academic achievement.

*EBCE students are rated as more mature on seventeen indices of maturity by themselves, their parents, and their Learning Coordinators after participation in the program.

*EBCE students are rated as better than most young workers by employers as represented by the Resource Persons on seventeen indices of maturity.

*Former EBCE students identify four major benefits of EBCE as finding out about jobs and work realistically; learning self discipline and a chance to mature; learning to consider alternatives in planning; and good preparation and motivation for college.

*EBCE students, EBCE former students, parents of EBCE students, and community members as represented by Resource Persons overwhelmingly endorse EBCE as a worthwhile and desirable learning experience for the young people it has served.

During the past five years, NED has evaluated more than fifty educational instructional and service programs. In terms of the quality of services provided to young people and accomplishing its stated purposes, SAD #51's EBCE Program ranks as one of the top three of those programs in NED's judgement.

INTRODUCTION

In September, 1976, the SAD #51 Experience Based Career Education (EBCE) Program was funded by the Bureau of Adult and Occupational Education, Office of Education, Department of Health, Education, and Welfare as a Priority Area I project. As the sponsor of a Priority Area I project, SAD #51 obligated itself to install a high fidelity replication of a Joint Dissemination and Review Panel (JDRP) approved EBCE model. The model identified for replication in SAD #51's funding proposal was the Appalachia Educational Laboratory's (AEL). Since September, 1976, the New Educational Directions, Inc. (NED) staff has worked closely with the EBCE staff on the formative and summative evaluation of the program. The SAD #51 EBCE Program is a high fidelity replication of the AEL model and does appear to be providing a vital and viable alternative to traditional secondary education for Greely High School's (GHS) students.

In December of 1976, a three-year Evaluation Plan covering all major aspects of the project's operation was developed and implemented by NED and the project staff. This plan has provided the framework for the year-end evaluation reports issued in 1977 and 1973 and will again in the three-year report to be prepared during the summer of 1979. This interim report will not address federally-mandated project activities such as dissemination, but will present data organized around five broad topics:

I. What type of student is attracted to EBCE?

II. How does the academic performance of EBCE students compare with that of students in more traditional high school programs?

III. How do EBCE students compare with others on the attainment of career education knowledge, attitudes, and skills?

IV. How do major actors and audiences view EBCE's effects on students?

V. What happens after EBCE?

Each semester the EBCE program has been offered in SAD #51, a comparison group of students has been identified and has been involved in the same testing, and follow-up activities as the EBCE students. The comparison group students were matched with the EBCE students on the variables of sex, grade, course of study, and grade point average.

I. WHAT TYPE OF STUDENT IS ATTRACTED TO EBCE?

When asked why they elected to participate in the EBCE program, the three most frequent responses which EBCE students indicate are:

1. I wanted to learn more about careers;
2. I wanted to see what it was like in the world of work; and
3. I wanted to get away from the regular high school program.

The information below constitutes a profile of the GHS students who have participated in the EBCE Program during its four semesters of operation.

classification factor	one semester 1976-77 Number	Percent	two semesters 1977-78 Number	Percent	one semester 1978-79 Number	Percent	four semesters overall Number	Percent
Sex:								
Female	18	64%	12	36%	13	59%	43	52%
Male	10	36%	21	64%	9	41%	40	48%
Grade:								
9th	2	7%	-	-	3	14%	5	6%
10th	1	4%	8	24%	1	4%	10	12%
11th	12	43%	9	27%	7	32%	28	34%
12th	13	46%	16	49%	11	50%	40	48%
Age:								
14	-	-	-	-	2	9%	2	2%
15	-	-	1	3%	1	5%	2	2%
16	8	29%	9	25%	6	27%	23	27%
17	12	43%	17	47%	12	54%	41	48%
18	8	29%	7	19%	-	-	15	17%
19	-	-	2	6%	1	5%	3	4%

Academic achievement level is expressed as grade equivalent scores on the Comprehensive Tests of Basic Skills (CTBS) administered when the students entered the program.

	1976-77 Range	Mean	1977-78 Range	Mean	1978-79 Range	Mean
Total Reading	5.5-13.6	12.3	5.0-13.6	11.1	4.3-13.6	10.8
Total Language	3.8-13.6	11.6	3.6-13.6	10.1	2.8-13.6	10.3
Total Math	6.0-13.6	10.8	6.0-13.6	10.3	2.0-13.6	9.9

Notes: 13.6 is the ceiling grade equivalent on the CTBS. The students' mean actual grade placements on the test dates were 11.8 for 1976-77, 11.2 for 1977-78, and 11.2 for 1978-79. The tests were administered in January, 1977, and in the fall of 1977, and 1978. Therefore, while it does appear that the average academic performance of EBCE students upon entering the program has decreased each year those decreases have not been as dramatic as a first inspection

might indicate and the program has continued to attract students of all achievement levels as measured by the CTBS.

Several hypotheses were tested to see if any factors other than those used for matching the groups would distinguish the EBCE group on entry into the program from the comparison group. Most of the data for this purpose were provided by a questionnaire given to the students in September.

The first hypothesis was that the EBCE group would be less certain of their career plans than the comparison group (CG). The fall, 1978, results for the two groups were the same as for previous years and were:

	number of students indicating	
	EBCE	CG
Do you know what you will be doing a year from now?		
Yes, I have firm plans.	5	6
I have an idea of what I'll be doing but I'm not certain.	15	13
No.	2	0
Do you know what kind of work you want to be doing in ten years from now?		
Yes, I know exactly what I want to do.	4	9
I have several things in mind, but I haven't decided for sure.	12	6
There are some things I know I DON'T want to do, but I haven't decided what I DO want to do.	2	3
No. I have no idea.	3	0
What grade were you in when you made your present career plans?		
Since I don't have any plans for the future, I can't say.	4	0
Median answer of those students who did not choose the above response.	9.5	9.5

Chi-square analyses of the multiple-choice questions confirmed the similarity of the two group's response patterns. Responses to the second question, while not significantly different, do show a strong tendency for the EBCE students to be less certain of what they will be doing in ten years than the comparison students.

It was also hypothesized that EBCE students might be less inclined to participate in extracurricular activities. Students were asked to list those activities that they had been involved in during the past year (1977-78) and those they expected to be involved in during the present year (1978-79). The mean number of activities for 1977-78 was .8 for the EBCE group, and .6 for the comparison group; the means for 1978-79 were 1.2 for the EBCE group, and .7 for the comparison group. A chi-square analysis showed that the difference in the amount of involvement in extracurricular activities between the two groups was not significant.

A third hypothesis was that the EBCE students would have more work experience than the comparison students. The mean number of jobs held since freshman year was 1.7 for the EBCE group, and 1.8 for the comparison group. A chi-square analysis confirmed the apparent similarity in the number of jobs held by each group. Thus, the hypothesis was not supported.

In conclusion, the EBCE group is composed mostly of juniors and seniors, is equally divided between males and females, and represents a wide range of academic achievement.

II. HOW DOES THE ACADEMIC PERFORMANCE OF EBCE STUDENTS COMPARE WITH THAT OF STUDENTS IN MORE TRADITIONAL HIGH SCHOOL PROGRAMS?

During site visits spanning the program's first four semesters of serving students, NED staff members reviewed randomly selected samples of Student Activity Sheets (SASs) which provide the basis for students' learning experience and discussed student assignments with the project's Learning Coordinators (LCs) who work with the EBCE students in developing and reviewing learning assignments.

From February--June, 1977, the EBCE course offerings paralleled the GHS offerings and no career education credit was available to EBCE students. During this period student assignments tended toward being non-interdisciplinary in nature, being minimally individualized, and not using the site placements directly as a part of the instructional process.

Starting in September, 1977, the project increased the fidelity of its replication of the AEL model by more directly using the AEL approach to courses as well as to the instruction of those courses. (EBCE students who participated in the program's first and second semesters endorsed the move away from GHS courses with comments such as, "Our assignments have a lot more meaning this year and they seem more important somehow.")

Inspections of SASs after September, 1977, by NED staff revealed that student assignments were frequently interdisciplinary in nature as called for by the AEL model. As might be expected, the sites were utilized primarily for teaching career education concepts including positive attitudes toward work and learning. The site experiences also appeared to provide students natural opportunities to practice handling independence, decision making, and responsibility while functioning in an adult non-school setting. In addition, it did appear that site experiences did provide stimulation and meaning for academic assignments by relating these assignments to practical work situations.

It was hypothesized that at the end of the program, the academic achievement of EBCE students will be equivalent to that of the comparison students. There is no research design that can substantiate an hypothesis of no differences. However, NED accepts an absence of measurable differences as the best available evidence that the groups are equivalent in academic achievement. The two groups used to evaluate this question are the students in the EBCE program and the comparison group already discussed.

The Comprehensive Tests of Basic Skills (CTBS), Level 4, Form S was used to measure academic achievement. Eight of the CTBS scales were administered in September and February.

Some students did not take both the pretest and the posttest and hence were eliminated from analyses for which either score was missing. This is the reason for differences in the number of students on which the different analyses are based for both the CTBS and the NICE. The analysis of covariance model was used to test the posttest differences between the two groups while accounting for random pretest differences. Since the analysis of covariance model assumes that the two evaluation groups were drawn from the same pre-treatment population, between group differences were tested using a two-tailed t-test. No significant differences were found on seven of the eight scales of the CTBS. A significant difference was found on the Math Computation Scale ($t(26) = -3.27$ $p<.005$). Any further analyses on this scale should be interpreted cautiously, in light of this pretest significant difference. Overall, it appears that the comparison group is sufficiently similar to the EBCE group on the dimensions tapped by the CTBS, assuming caution is used as noted above.

Pre and posttest results are summarized in Table I and analysis of covariance tables are presented in Table II. No significant differences were found on any of the scales between the groups during the 1978-79 year and these results support the findings of the previous two years as reported in the year-end reports for 1976-77 and 1977-78.

Table I

Summary of CTBS Results
(Raw Scores)

Scale	Group	N	Means Pre-test	Means Post-test	Means Raw Gains	Means Adjusted Post	Standard Deviations Pre	Standard Deviations Post	Significance Level of F*
Reading Vocabulary (40 items)	CEB	15	26.27	27.73	1.46	28.38	9.19	7.96	NS (.053)
	CG	15	28.00	31.33	3.33	30.68	7.82	6.13	
Reading Comprehension (45 items)	CEB	15	29.33	30.13	.80	30.13	10.52	8.68	NS (.778)
	CG	15	30.47	30.33	-.14	29.94	7.73	8.19	
Spelling (30 items)	CEB	15	19.80	20.20	.40	20.48	6.57	5.78	NS (.478)
	CG	15	20.47	21.40	.93	21.12	5.91	5.85	
Language Mechanics (20 items)	CEB	16	13.19	13.69	.50	14.29	2.81	3.46	NS (.695)
	CG	15	14.87	15.27	.40	14.62	2.70	2.40	
Language Expression (35 items)	CEB	16	20.75	21.00	.25	22.70	7.05	7.04	NS (.403)
	CG	15	24.80	25.60	.80	23.80	4.11	4.72	
Math Computations (48 items)	CEB	16	26.06	28.25	1.19	33.08	8.64	12.02	NS (.213)
	CG	12	36.08	35.33	-.75	28.91	7.12	10.59	
Math Concepts (25 items)	CEB	15	14.40	14.53	.13	15.99	5.73	7.12	NS (.902)
	CG	12	17.58	18.00	.42	16.16	4.17	4.82	
Math Applications (25 items)	CEB	15	12.47	11.53	-.94	12.25	5.46	5.54	NS (.088)
	CG	12	14.25	16.33	2.08	15.45	5.79	8.02	

*NS means $p > .05$ (differences not significant)

Table II: CTBS Analysis of Covariance Summary

Scale	Source of Variance	df	MS	F	P*
Reading Vocabulary	Pretest	1	1212.31	126.84	NS (.053)
	Program	1	39.10	4.09	
	Error	27	9.56		
	Total	29	52.05		
Reading Comprehension	Pretest	1	1131.35	35.46	NS (.778)
	Program	1	2.60	.08	
	Error	27	31.91		
	Total	29	68.81		
Spelling	Pretest	1	799.66	138.27	NS (.478)
	Program	1	2.99	.52	
	Error	27	5.78		
	Total	29	33.06		
Language Mechanics	Pretest	1	139.90	28.18	NS (.695)
	Program	1	.78	.16	
	Error	28	4.96		
	Total	30	9.32		
Language Expression	Pretest	1	887.89	76.92	NS (.403)
	Program	1	8.32	.72	
	Error	28	11.54		
	Total	30	40.65		
Math Computation	Pretest	1	2371.86	45.99	NS (.213)
	Program	1	84.38	1.64	
	Error	25	51.58		
	Total	27	138.73		
Math Concepts	Pretest	1	777.86	69.71	NS (.902)
	Program	1	.17	.02	
	Error	24	11.16		
	Total	26	40.23		
Math Application	Pretest	1	719.97	34.31	NS (.088)
	Program	1	66.47	3.17	
	Error	24	20.98		
	Total	26	49.62		

*NS means that $p > .05$ (differences not significant)

Many people who have had contact with the EBCE students report that they have observed that EBCE has a positive affect on the students' language skills. As a check against the possibility that the CTBS was not sensitive to the type of difference observed, NED and the project staff decided to evaluate writing samples obtained from students in each group. These writing samples were rated on several qualities that English teachers had identified as being important during a November, 1976, review of the AEL curriculum by Greely High School teachers.

Four English teachers, two from Greely High School and two from Yarmouth High School, were selected to rate the writing samples. The four teachers met with the NED staff prior to rating the papers to discuss the rating scale and the rating criteria to ensure that there were no differences in the teachers' interpretations of their task. Three of the four teachers rated each writing sample.

Students from both groups met in one large group for the administration of the writing sample. They were provided the topic that they were to write on: "What's the problem?" They were instructed to define a problem, discuss as many aspects of the problem as time would allow, and offer solution(s) for the problem. The students were given two hours to complete this task.

The writing samples were analyzed using a randomized completed block analysis of variance design to see if there were any differences between the groups on any of the rating criteria. The analysis of variance model was used to measure the reliability of the teachers' ratings for each criterion. The results of the analyses are presented in Table III. Once again, there were no significant differences between the groups on any of the rating criteria.

In conclusion, there is no evidence that the EBCE Program and the more traditional high school curriculum are not equivalent in developing and/or maintaining students basic skills.

III. HOW DO EBCE STUDENTS COMPARE WITH OTHERS ON THE ATTAINMENT OF CAREER EDUCATION KNOWLEDGE, ATTITUDES AND SKILLS?

It was hypothesized that EBCE would have a positive impact on the students with respect to career education objectives as measured by the New Instrument for Career Education (NICE). The NICE consists entirely of multiple-choice questions. It contains nine scales which are described in terms of the attributes they measure in Table IV. All nine scales of the NICE were administered to both groups in September, 1978, and February, 1979.

Table III: Results of the Writing Sample Analysis of Variance

Criterion	Maximum Rating	Group	N	Mean Rating	Standard Deviation	Rater Reliability	F	p*
Correct Grammar	5	EBCE	14	2.31	.50	.43	2.21	NS (.160)
		COMP	14	2.62	.68			
Spelling	5	EBCE	14	2.21	.66	.72	3.52	NS (.083)
		COMP	14	2.55	.85			
Phrasing	5	EBCE	14	2.07	.62	.52	3.52	NS (.083)
		COMP	14	2.52	.70			
Punctuation	5	EBCE	14	2.35	.82	.74	.45	NS (.514)
		COMP	14	2.52	.58			
Sentence Structure	5	EBCE	14	2.17	.82	.60	.03	NS (.856)
		COMP	14	2.21	.65			
Paragraph Development	5	EBCE	14	2.18	.85	.69	.74	NS (.404)
		COMP	14	2.40	.68			
Total Technical	30	EBCE	14	13.05	4.09	.72	1.90	NS (.191)
		COMP	14	14.98	3.53			
Definition of Problem	5	EBCE	14	2.36	.72	.44	1.62	NS (.226)
		COMP	14	2.67	.67			
Logical Development	5	EBCE	14	2.17	.79	.48	.97	NS (.344)
		COMP	14	2.43	.74			
Clarity of Writing	5	EBCE	14	2.12	.86	.65	1.39	NS (.260)
		COMP	14	2.43	.73			
Uniqueness of Solution(s)	5	EBCE	14	1.99	.82	.67	.30	NS (.595)
		COMP	14	1.83	.75			
Viability of Solution(s)	5	EBCE	14	2.01	.72	.66	.56	NS (.468)
		COMP	14	1.81	.82			
Alternative Solution(s) Presented	5	EBCE	11	2.20	1.01	.67	.04	NS (.337)
		COMP	11	2.11	1.11			
Alternative Solution(s) Discussed	5	EBCE	10	1.75	.92	.33	.05	NS (.820)
		COMP	10	1.65	1.00			
Shadings of Meaning	5	EBCE	14	2.52	.65	.62	.25	NS (.625)
		COMP	14	2.39	.81			
Total Conceptual	40	EBCE	14	14.83	5.70	.74	.01	NS (.943)
		COMP	14	14.98	4.80			
Overall Total	70	EBCE	14	27.95	9.19	.71	.41	NS (.533)
		COMP	14	29.95	7.58			

*NS means $p > .05$

Table IV: Summary of NICE Results
1978-79
(Raw Scores)

Scale	Group	N	Means Pre-Test	Means Post-Test	Raw Gain	Adjusted Post	Standard Deviations Pre	Standard Deviations Post	Significance Level of F*
Work Related Attitudes:									
Students will desire to work and will possess attitudes which are likely to facilitate adjustment to and success in employment settings. (64 points)	EBCE	16	51.63	50.69	-.94	50.65	6.53	4.64	NS (.519)
	COMP	13	51.46	51.85	.39	51.89	6.90	7.41	
Locus of Control:									
Student will perceive that his/her future is controlled by him/herself rather than by society or fate. (43 points)	EBCE	16	17.56	17.38	-.18	17.42	4.62	4.30	NS (.446)
	COMP	13	17.77	18.31	.54	18.24	5.37	3.23	
Job-seeking Skills:									
Students will be knowledgeable about job application procedures and appropriate interview behavior. (21 points)	EBCE	16	13.50	13.75	.25	13.70	4.38	4.31	NS (.578)
	COMP	13	13.15	14.39	1.24	14.44	3.93	2.79	
Specific Occupational Information:									
Students will be aware of a variety of occupations in terms of workers' training requirements, pay, personality factors, interests, and abilities. (34 points)	EBCE	16	22.75	22.50	-.25	22.38	3.42	3.93	NS (.365)
	COMP	13	22.23	23.23	1.00	23.39	6.07	3.70	
Self Esteem:									
Students will perceive him/herself to be a valuable person with a promising future. (66 points)	EBCE	16	37.13	37.88	.75	38.03	6.75	5.29	NS (.906)
	COMP	12	38.00	38.50	.50	38.29	6.84	7.53	

Table IV: Summary of NICE Results (Cont.)
1978-79
(Raw Scores)

Scale	Group	N	Means Pre-Test	Means Post-Test	Raw Gain	Adjusted Post	Standard Deviations Pre	Standard Deviations Post	Significance Level of F*
Career Planning: Students will recognize the importance of career planning, view career planning as a life-long process, and be able to identify the relative importance which should be placed on various factors in making career decisions. (88 points)	EBCE	16	62.00	64.56	2.56	64.76	12.18	7.44	NS (.303)
	COMP	12	63.00	61.83	-1.17	61.56	8.98	11.54	
Attitudes Toward Learning: Students will have positive attitudes toward learning and will view learning experiences as relevant to adult life. (42 points)	EBCE	15	33.07	35.07	2.00	35.24	7.41	4.50	NS (.754)
	COMP	12	33.92	34.92	1.00	34.70	7.53	6.68	
General Occupational Information: Students will possess basic knowledge about employment, such as employment-related laws and the reasons for various methods and amounts of payment. (22 points)	EBCE	15	11.67	12.67	1.00	13.37	4.67	4.16	NS (.651)
	COMP	12	15.00	13.50	-1.50	12.62	3.81	4.64	
Sex Equity: Students will regard gender as irrelevant in matters pertaining to career planning, preparation, and employment. (40 points)	EBCE	16	26.88	25.19	-1.69	25.47	9.56	7.90	NS (.324)
	COMP	12	28.67	23.42	-5.25	23.04	6.14	5.21	

*NS means $p > .05$

Students were eliminated from the analyses of any scale for which either the pre or posttest score was missing. A t-test was used to determine if there were any differences between the groups on the pretest. No significant differences were found on any of the scales on the pretests. An analysis of covariance was used to test for posttest differences. No significant differences were found on any of the scales. (See Table V)

In conclusion, there is no compelling test evidence that the EBCE Program affected any of the nine dimensions of career education knowledge, skills, and attitudes measured by the NICE. It is possible that the program did affect these dimensions, but that the NICE was not sensitive to the type of growth that occurred. In fact, there is some evidence to support this possibility discussed in Section IV below.

IV. HOW DO MAJOR ACTORS AND AUDIENCES VIEW EBCE EFFECTS ON STUDENTS?

Parents, LCs, resource persons (RPs), and the EBCE students themselves have reported throughout the program that young people are different in positive ways after participating in EBCE. In the evaluation section of the project's second-year interim report (October 17, 1978), NED stated, "The one theme that emerges is that EBCE students and former students do appear to be better able to handle freedom, are more independent, are more self-disciplined--in short, are more mature and skillful in coping with life--than their counterparts who have not had the benefit of the EBCE experience."

In an attempt to systematically gather data which might substantiate this earlier finding, NED revised the parent, LC, student, and RP questionnaires in order to make them as parallel as possible to each other. This would allow an inter-rater reliability to be calculated for each of the characteristics assessed on the questionnaires. Students, parents, and LCs were asked to rate changes in students since the beginning of EBCE participation, while RPs were asked to rate the EBCE student compared to most new young workers.

This approach required six responses for each EBCE student--the student, the student's LC, the student's parents, and the RPs from the student's three most recent site placements. Unfortunately the response rates are low at this time and complete sets of data are available for only four (18.2%) students. Student, parent, and LC responses are available for only thirteen (59.1%) of the students. This return rate was insufficient to obtain acceptably stable statistics. It is of interest, however, to examine the available data.

The respondents were asked to rate the EBCE student on seventeen characteristics using the scale below:

5 is much better

4 is better

3 is about the same

2 is not as good

1 is much worse

NO not observed (NS--not sure on student questionnaire)

The average ratings for EBCE students from each of the rater groups are presented in Table VI.

An inspection of Table VI seems to indicate that positive change is viewed by parents, students, and LCs as occurring in EBCE students on every one of these important attributes while they are enrolled in EBCE. Furthermore, employers, as represented by the resource persons, view EBCE students as distinctly better than "most new young workers" on these attributes. These data, therefore, appear to lend support to the idea that EBCE does contribute to the growth of students in positive and unique ways.

V. WHAT HAPPENS AFTER EBCE?

> *"I am taking difficult courses in order to get a good background to become a doctor. If I had not been in EBCE, I would not have signed up for such difficult courses at Greely."*
> *--former EBCE student*

In January, 1979, a follow-up study of former EBCE students and the comparison group was initiated for the purpose of finding out where these individuals were after the EBCE experience. This study is still in progress, but the currently available information is reported here.

Table V: NICE Analysis of Covariance

Scale	Source of Variance	df	MS	F	p
Work Related Attitudes	Pretest	1	309.94	12.00	NS (.519)
	Program	1	11.05	.43	
	Error	26	28.84		
	Total	28	35.46		
Locus of Control	Pretest	1	193.28	23.86	NS (.446)
	Program	1	4.84	.60	
	Error	26	8.10		
	Total	28	14.60		
Job-seeking Skills	Pretest	1	45.94	3.68	NS (.578)
	Program	1	3.96	.32	
	Error	26	12.50		
	Total	28	13.39		
Specific Occupational Information	Pretest	1	171.19	20.08	NS (.365)
	Program	1	7.25	.85	
	Error	26	8.53		
	Total	28	14.29		
Self Esteem	Pretest	1	205.33	6.11	NS (.906)
	Program	1	.48	.01	
	Error	25	33.59		
	Total	27	38.72		
Career Planning	Pretest	1	686.54	10.81	NS (.303)
	Program	1	70.30	1.12	
	Error	25	63.51		
	Total	27	86.84		
Attitudes Toward Learning	Pretest	1	299.72	15.23	NS (.754)
	Program	1	1.98	.10	
	Error	24	19.68		
	Total	26	29.77		
General Occupational Information	Pretest	1	106.65	6.90	NS (.651)
	Program	1	3.25	.21	
	Error	24	15.46		
	Total	26	18.50		
Sex Equity	Pretest	1	224.83	5.67	NS (.324)
	Program	1	40.08	1.01	
	Error	25	39.68		
	Total	27	46.55		

Table VI

What Does EBCE Do For Youth? Mean Ratings Of Parents, Students, Learning Coordinators, and Site Resource Persons

	EBCE Students	EBCE Students' Parents	Learning Coordinators	Site Resource Persons
Total Number of Ratings	20	15	22	42
Percent of Possible Responses	90.9	68.2	100.00	63.6
Is considerate of others	4.0	3.6	4.0	3.8
Has positive attitudes toward adults	3.9	3.7	4.1	3.9
Gets along well with people	4.2	4.0	4.2	3.9
Reacts well to authority	3.8	4.0	3.9	4.0
Expresses thoughts well	4.2	3.7	4.1	3.4
Is responsible	4.5	3.7	4.3	3.6
Has a positive self image	4.2	4.0	4.0	3.7
Works well independently	4.4	4.1	4.0	3.7
Is self disciplined	4.4	3.5	4.2	3.6
Is self confident	4.4	4.2	4.2	3.5
Shares ideas and opinions freely: assertive	4.0	4.3	4.2	3.6
Is self directed	4.2	4.1	4.1	3.6
Can accept criticism	4.1	3.7	4.1	3.1
Considers alternatives	3.9	4.1	3.9	3.7
Communicates well	4.1	3.5	4.2	3.3
Is flexible	4.1	3.6	4.1	3.7
Is dependable	4.3	4.0	4.3	4.0

5 = is much better than before EBCE
4 = is better than before EBCE
3 = is about the same as before EBCE
2 = is not as good as before EBCE
1 = is much worse than before EBCE

The follow-up of former EBCE students was basically a mail survey with current addresses verified by telephone. The comparison group was surveyed by telephone. The reason for using the different approaches was that it was felt that the EBCE group would have enough of an investment in the program to assure a respectable return rate and that the less expensive mail survey would suffice. At the time of this writing, twenty-two (53.7%) of the forty-one former EBCE students who are no longer in high school have responded and it is on this group that the following discussion focuses. Five of the twenty-one (26.3%) former EBCE students who returned to the high school setting have responded thus far which does not provide a high enough return rate for analysis. Telephone contact was made with 35 of the out-of-school comparison group for a 85.4% response rate.

The questions asked of these former-EBCE students and the comparison group in common focused on:

1. What have you been doing during the past year and what are you doing now?
2. What occupations are you interested in pursuing or are pursuing?
3. What high school courses or experiences have been most helpful to you in what you are doing now? Least?
4. What do you plan to be doing ten years from now?
5. What experiences in high school influenced these plans?

The former EBCE students were asked to respond to five additional items:

1. Did EBCE have anything to do with your selection of occupations that you are interested in or are pursuing?
2. Did EBCE help you eliminate occupations you had previously considered?
3. Are you glad you participated in EBCE?
4. Is there anything you missed out on in the regular program that you regret now?
5. Please write any comments about EBCE that you feel are appropriate including suggestions that would improve the program.

An opportunity was provided for respondents to expand on all responses and they were encouraged to do so.

WHERE ARE THEY?

% of respondents

	EBCE N = 21	COMP N = 35
Military	9.1	5.7
Enrolled in Post-secondary Program	50.0	48.6
Employed	31.8	34.3
Unemployed	9.1	11.4
Number of changes:		
0	77.3	71.4
1	18.2	20.0
2	--	5.7
3+	4.5	2.9

The number of changes indicates the number of job changes or training changes which have occurred in both groups since high school graduation. For all practical purposes, the two groups are remarkably similar.

> *If I hadn't been in EBCE I'd be sitting behind a desk typing and I can't stand typing (discovered during EBCE placement).*
>
> --former EBCE student

From the EBCE group 13.6% did not indicate plans for pursuing specific occupations now and the same percent did not indicate plans for ten years hence. In the comparison group 11.4% did not indicate plans for pursuing specific occupations now, but 20% of them indicated no plans for ten years hence.

> *EBCE put me into jobs I thought I would like and then I could find out things about them so I could see it wasn't for me.*
>
> --former EBCE student

As could be anticipated in response to the questions concerning the most and least helpful high school courses for the occupations currently interested in pursuing or are pursuing, there was no consensus for either group. If one student found mathematics most helpful another found it least helpful, etc. In the EBCE group, however, 59.1% of those responding rated EBCE as most helpful while no one in this group indicated EBCE as least helpful. It is interesting to note also that 36.4% of the EBCE group and 20% of the comparison group did not indicate any "least helpful" courses or experiences.

> *I feel that I would not have been able to continue high school in regular classroom routine. If it weren't for EBCE, I can't even guess where I would be now. I learned a lot about myself and also I learned academically.*
>
> --former EBCE student

Of the EBCE group, 72.7% of them indicated that the EBCE experience had a direct influence on their current occupational pursuits.

> *I knew I had potential. EBCE gave me the freedom to prove it and taught me not to be afraid to try. High school had stereotyped expectations.*
>
> --former EBCE student

Almost 82% of the EBCE group also indicated that the program helped them to eliminate occupational areas some of which they might have made considerable time and dollar investments preparing for without the EBCE experience.

> *I was interested in children and teaching. The (EBCE) exposure to this field helped me evaluate my real interests. I love children, but I'll love them less if I have to be with 20 of them 5 hours a day. (Discovered writing through site placements and is now training in this area.)*
>
> --former EBCE student

Of the former EBCE students, 90.9% of them indicated that they were glad they had participated in the program (two individuals, 9.1%, did not respond to this item). The four most frequently mentioned benefits derived from participating in EBCE were:

1. finding out about jobs and work realistically;

> *EBCE is a good way to experience jobs and gives one a chance to find out first hand about practical applications of studies.*
> --former EBCE student

2. learning self discipline and a chance to mature;

> **It gives the student a chance to grow up and find out what they want out of life.*
> *or*
> **I thank you for letting me grow up.*
> --former EBCE students

3. learning to consider alternatives in planning; and

> *It (EBCE) has shown me there is a multitude of doors which can be opened. These doors will lead into a varied array of occupations.*
> --former EBCE student

4. good preparation and motivation for college.

> **EBCE was more enlightening and helpful in my college life than any course.*
> *or*
> **What would have been more helpful (than memorizing for tests) was experience with writing and independent work emphasized in both EBCE and college.*
> --former EBCE students

Looking back on their EBCE experience, 81.8% of the group did not feel that they had missed out on anything in the regular program that they regretted. One individual did not respond to this area and the other three (13.6%) indicated non-academic activities were missed.

> *As a freshman, I was absent about 50 days. In EBCE I missed only 6 days. EBCE is an excellent program and I loved it. I went back to high school. It was boring and I quit.*
> --former EBCE student

In making suggestions for program improvement, the two most frequently offered by former EBCE students were to limit participation in the program to juniors and seniors and to limit the amount of time in the program to one or, at the most, two semesters.

VI. CONCLUSIONS

For the past two and a half years, SAD #51's EBCE Program has been experiencing an ongoing evaluation. Because of these efforts, NED can make some definitive statements concerning the ways in which EBCE affects the students it serves.

EBCE students represent a wide range of achievement levels when they enter the program and when they leave the program. There is evidence in the form of standardized tests and a writing sample administered to EBCE and comparison groups that EBCE students learn academics as well as their counterparts in more traditional programs. EBCE students are *taught* academic content but, because the teacher (Learning Coordinator) operates as a facilitator of the learning process, they are also taught *how* to learn content and *where* to find it. This approach is particularly important in an age when the knowledge explosion makes it impossible for any teacher to play even inadequately the fount of all knowledge.

EBCE students do appear to be different from their non-EBCE peers in some very significant ways. Based on ratings by the EBCE students themselves, their parents, their learning coordinators, and the resource people at the sites, EBCE students are better than they were before the experience and better than most new young workers on all of seventeen indices of maturity. The one theme that emerges is that young people who have participated in EBCE are more dependable, are better able to handle freedom, are more indpendent, are more self-disciplined--in short, are more mature and skillful in coping with life--than their counterparts who have not had the benefit of the EBCE experience.

Former EBCE students who are now either in postsecondary education or in the work world overwhelmingly indicate that they are glad they participated in EBCE. These individuals identified four major benefits of participation in EBCE as:

1. finding out about jobs and work realistically;
2. learning self discipline and a chance to mature;
3. learning to consider alternatives in planning; and
4. good preparation and motivation for college.

There are indications that, while EBCE benefits students who are not "problem students," it is also of great benefit to students whose academic performance and attendance are subpar in the traditional setting as witnessed by their vastly improved attendance and acceptable academic performance while enrolled in EBCE.

As a group, the parents of EBCE students appear to enthusiastically endorse the program as a worthwhile experience. During the life of the program up to 96% of those responding to parent surveys have indicated that they would either want their son/daughter to participate in EBCE if they had it to do over or that their son/daughter had already re-enrolled in EBCE.

Students who have participated in the program also endorse its benefits as over the life of the program approximately eight out of every ten of them have indicated that:

1. I think EBCE should be offered in every high school program throughout the United States;
2. I would recommend EBCE to my friends; and
3. If I had it to do over again, I would participate in the EBCE Program.

NED is convinced that the available evidence proves that SAD #51's EBCE Program provides a needed and effective alternative secondary program for the full range of their secondary students. It serves to instruct academically, it serves to motivate otherwise unmotivated or undermotivated students to the necessity, desirability, and fun of learning. It aids students in obtaining focus for their education and aids them in eliminating alternatives toward the end of avoiding the time and money spent for training in areas that would represent either false starts or in which they would not find fulfillment. The EBCE Program offers an alternate learning environment which accommodates the learning styles of young people who do not respond well to the traditional high school structure. It also appears to provide a motivating influence for learning to otherwise undermotivated students.

During the past five years, NED has evaluated more than fifty educational instructional and service programs. In terms of the quality of services provided to young people and accomplishing its stated purposes, SAD #51's EBCE Program ranks as one of the top three of those programs in NED's judgement.